

AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, DECEMBER 13, 1834.

TO CORRESPONDENTS.—"A Subscriber's" communication upon the use of Locks, instead of Inclined Planes and Stationary Power, to overcome elevations on Railroads, &c., will be attended to at an early period.

We would call attention to the able article in this number, from the Edinburgh Quarterly Review, upon the utility of railroads.

STEAM CARRIAGES ON COMMON ROADS.—An interesting letter will be found in this number of the Journal, from Mr. G. RALSTON, of Philadelphia, now in London, upon the subject of steam carriages. It will be read with much interest, as coming from a gentleman well known in this country. The drawing to which he refers has not yet come to hand, but we have one, of the ERA, which, together with an interesting article from the London Mechanics' Magazine, will be given in a subsequent number.

An engraving and description of the "AUTOPSY" carriage was published some months since in the Journal.

A BOLD PROJECT!—SUSPENSION BRIDGE BETWEEN NEW-YORK AND BROOKLYN.—We have before us a beautiful drawing of a Suspension Bridge over the East river, at Fulton street. It is accompanied by a description, and some interesting facts relative to suspension bridges in Great Britain, which we shall publish as soon as we can make room for it. In the mean time the plan may be seen at this

office. It is a subject well worth investigation, both as a matter of convenience and ornament to the two cities.

CANAL CONVENTION.—The convention, to which we have heretofore referred, called to meet at Baltimore on Monday last, assembled according to appointment. Delegates were in attendance from Virginia, Maryland, Pennsylvania, Ohio, and the District of Columbia. Officers, pro tem., were appointed. A committee appointed to select permanent officers recommended the following, who were elected, viz.:

President.—G. C. Washington, of Maryland. Vice Presidents.—Elisha Whittlesey, of Ohio; Elijah Boyd, of Virginia; William A. Bradley, of the District of Columbia; William Robinson, of Pennsylvania.

Secretaries.—J. P. Kennedy, of Baltimore; Joseph Shriver, of Maryland.

We shall hereafter give the result of their proceedings.

STEPHENSON'S IMPROVED LOCOMOTIVE.—From the Repertory of Patent Inventions for November, we find a drawing and particular description of Mr. Robert Stephenson's recent improvements upon the locomotive engine.

One of his improvements consists in divesting the large, or driving, wheels, which are attached to the crank axle, of their flanges, and the addition of a pair of wheels aft. The object of this improvement is to prevent the frequent fracture of the crank axle, which he attributes, and very justly so, too, as we think, to the great additional strain to which they are subjected on curves, turns-out, and crossings, in resisting the tendency to run off the rail. By this improvement, the crank axle is only subject to its proportion of the weight of the engine, together with the driving machinery, whilst the engine is kept on the rails by the flanges on the forward and aft wheels. Mr. Stephenson has also appended to his improved engine, a brake, or clogg, to be acted upon by steam. This brake is placed between the driving and after wheel, and it is thought by Mr. Stephenson to possess very great advantages over those now in use, worked by hand. These improvements are minutely described, and accompanied by engravings, which will appear in the next number of the Journal.

IMPROVED RAILROAD CHAIR.—We also find in the November number of the Repertory of Patent Inventions, a description and drawings of the Railroad Chair, as improved by ROBERT STEPHENSON, the younger. The improvement consists in a self-adjusting bearing in the chair for the rail to rest upon, by which means the rail retains its position, although the stone support, or block, or cross sill, upon which the chair rests, may, from the settling of the ground, tilt, or incline lengthwise of the rail. To use the language of his specification, the improvement is "the application of a self-adjusting segmental bearing-piece, into a suitable cell, at the bottom of the notch in each chair, in order to form a bearing surface for the rail to rest upon; the said bearing piece being in the form of a segment of a circle, and being lodged with its convexity, or circular arch of the segment, downwards, within the cell, which is of a corresponding concavity, the flat side, or chord of the segment, being upward, and forming the bearing surface for the rail, at the bottom of the notch in the chair; upon that bearing surface the rail is to rest, and the said bearing surface will always accommodate itself to the underside of the rail." He has also made some improvement in the manner of confining the rail in the chair. This improvement consists in the insertion of pins into, or through, the cheeks of the chair at right angles with the notch, the point or end of which is to fit into a small longitudinal groove in the side of the rail, thereby confining it down, yet allowing it to elongate and contract by the change of temperature; the pin is to be confined in its place by a tapering key, which is to pass through a mortice in the cheek of the chair, and the pin at right angles, so that, as the key is driven, the pin will press more firmly against the rail. The chair is to be of cast, and the pin, key, and segmental bearing pieces, of wrought iron.

We shall give the specification and drawings in a subsequent number.

Railroad.—A most unprecedented and pleasing circumstance was witnessed on Sunday last, at the Railroad Depository, being the arrival of three Locomotives at one time, having at their train sixty freight cars, laden with nine hundred and g h bales of cotton.—[Charleston Courier.]

The following extracts from the last number of the *Edinburgh Quarterly Review*, are so much in accordance with the views so often expressed in this *Journal*, of the great and growing utility of Railroads, especially to large towns and cities, and illustrate the correctness of those views so much more clearly than we could possibly do, that we cannot refrain, notwithstanding their length, from giving them to our readers.

The remarks of Mr. Pease, relative to their interference with Turnpike Roads, should be well considered by those who oppose the New-York and Erie Railroad, fearing that it will injure the business on the Canal.

It is now two years since we called the attention of our readers to the great advancement which had been made in the art of applying steam-power to the important purposes of inland transport. We then foretold the rapid extension of this great instrument of social improvement; and subsequent events have amply verified our predictions. Railroad undertakings have been entered into with an avidity to satisfy the most ardent, and to create alarm in the more timid and cautious. In our own country, however, the number of checks on such schemes are sufficient to prevent the public from rushing into them with undue precipitation; and the danger rather is, that private and local interests may act as too great a drag on public enterprise, than that the latter principle should receive undue scope. A considerable portion of the property of the country, and more especially of that in land, has, in many instances, opposed serious obstructions to parties seeking legislative sanction for projected lines of railroad; and although, in some cases, such opposition has proceeded from sinister motives, or such as would not bear an open avowal, yet we must suppose that, in the majority, the ostensible objections have been seriously and sincerely, though erroneously, entertained. In the present article, we shall endeavor to show, not only that the principal objections so urged are unfounded in themselves, but that they are in direct opposition to the results of experience, and as much opposed to the real interests of the objectors as to the public good. We shall also briefly advert to the principal lines of communication recently undertaken, and to those which are in progress in other parts of Europe, and in America.

The opposition which railway companies experience in obtaining the necessary legislative sanction, proceeds, in the majority of cases, in this country, from the landholders, through whose lands the projected lines are to pass. Nevertheless, it is demonstrable that there exists no class of persons whose interests are more likely to be promoted by such improvements than those of the local proprietors. One ground of objection assumed by proprietors resident in the vicinity of projected lines of railroad, is the apprehended nuisance of the noise and smoke of the engines, and of the exposure of their premises to the intrusion of large numbers of passengers. The evidence produced before the Committee of the House of Commons, on the London and Birmingham railroad, will show how unfounded are such objections.

Mr. Hardman Earle, a Liverpool merchant, was one of the most determined opponents of the Liverpool and Manchester railroad. His family had, at the cost of above £12,000, built a house, and laid out pleasure-grounds, through which the line of railway passes; and their opposition was founded partly on the apprehended injury and inconvenience arising from this circumstance. Mr. Earle, therefore, was very properly summoned as a witness before this Committee, and the following is a part of his testimony.

"Have you experienced any inconvenience

since the railway was constructed?—No inconvenience whatever has been experienced.

"Are the grounds infested by the people in consequence of the passage of the locomotive engine?—No.

"Is there any thing offensive in it?—Nothing whatever.

"Is there any smoke?—None whatever.

"Is there any noise?—No; it is rather an object of interest to persons residing there.

"Are you able to say whether the inhabitants of other houses are annoyed?—I am enabled to say they do not consider them a nuisance.

"At the commencement of the undertaking were you a determined opponent to the measure?—Yes; my mother was a petitioner against the bill, and I appeared as evidence against it.

"From all that you have since seen, you would no longer oppose the construction of railroads?—Certainly not; from what I have seen my opinion is entirely changed."

In fact the fuel burned is coke, which produces no smoke. The smoothness of the road, and its freedom from those asperities which exist on the best constructed turnpike roads, are such that the wheels move with comparatively little noise. But, in addition to this, the speed being almost three times that of common coaches, and more than seven times that of waggons, the noise is almost momentary. A train of waggons or coaches shoots past with the speed of the wind, and the noise is scarcely perceived before it ceases; it cannot be heard on a still day at a greater distance than one hundred yards.

Another ground of objection, urged by land-lords, is the apprehended depreciation of the value of the adjacent land. The facility of communication with the metropolis and populous towns is so obvious an advantage, that we cannot help expressing our astonishment that such an apprehension should for a moment be entertained. As those who could entertain an objection so unfounded are little likely to be accessible to the reasoning by which it might be refuted, we shall here confine ourselves to facts, and show that in every case, without a single exception, which has come under inquiry, the value of land adjacent to a successful line of railway has been considerably increased.

Mr. Pease, M. P., a director of the Stockton and Darlington railway, stated, in his evidence, that he had been for ten years a director of that company, during seven years of which the railroad had been in practical operation; that he had closely observed its effects on landed property through which it passed, or which was adjacent to it, and that he had been privy to all the negotiations which had taken place between the railroad company and the proprietors from whom they had made purchases.

"Do you know whether the advertisements for letting farms or selling estates contain any thing relating the railroad?—It is invariably stated, either that the railroad passes through the estate or near to it; they consider it as an enhancement of the value of the property.

"Are you a landholder yourself in the neighborhood of the railroad?—I have one small estate, which it intersects into two equal parts nearly. It passes through the enclosure in which the homestead stands.

"Have you been benefitted by the railroad passing through it?—I have; the cuttings are available as drains; the rent of the property is increased one-fifth. I let the farm subject to its being given up on the railroad being made, and I have since received one-fifth additional rent.

"Do you know any instance of the reduction of rent, in consequence of a railroad passing through a farm?—I have made inquiries, but have not been able to meet with such an instance."

The Stockton and Darlington railway was

originally intended to be a single line; but after its formation the company found, from the extent of traffic upon it, that a double line would be necessary. Having originally purchased no more land than was necessary for the single line, they were obliged to treat with the same proprietors for an additional tract to widen the road, so as to receive the second line of railway. Nothing can more conclusively decide the question of the effect of the railway on the value of land than this circumstance. Here was a portion of land, purchased before any railway had been constructed; and an equal quantity, in precisely the same place, was subsequently purchased from the same parties by the same company, after the formation of the single line of railway. Mr. Pease was examined as to the terms on which the second portion of land was purchased.

"Have you paid on those (second) treaties an increased value upon the land beyond what you paid before the line was established?—Invariably.

"Can you say to what amount?—I should say that we have never objected to pay an advanced price of 50 per cent.

"Was this in consequence of the increase of value arising from the railroad?—We were quite aware of the increased value to the owner, and made no objection to the advance."

Mr. Thomas Lee, a surveyor and agent to several landed gentlemen in the neighborhood of the Liverpool and Manchester railroad, was examined as to the effect of the railroad upon the value of land in that neighborhood.

"Can you tell the committee whether, in an agricultural point of view, property has been improved or deteriorated by the railroad passing through it?—It has been improved.

"Have the farmers been benefitted by it?—They have.

"Have Colonel Lee and Mr. Trafford obtained higher rents in consequence of it?—They have.

"Have you taken land yourself at an increased rent.—At double the original rent."

Mr. Hardman Earle, before mentioned, was examined to the same point.

"Do you know any instance in which the value of land has been affected by the railway?—I think the Chat Moss was an instance of that kind. They bring manure from Manchester to Chat Moss; and wherever a station is formed, the value of the land is improved. You see advertisements recommending a site, because the railroad runs near or through it.

"Do you know of any instances by which land has been depreciated by it?—I think I can say positively that there is not an instance on the Manchester line.

"Do you know of any persons quitting their dwelling-houses in consequence of it?—I do not know of one. I should be glad to purchase land on the line, to build for myself."

We may here state that the Chat Moss is an extensive district of bog and morass, over which the railroad was carried at incredible labor and expense. It was of course previously altogether unproductive. We now, however, see on each side of the road extensive systems of drains, gradually carrying off the water, and leaving tracts of considerable fertility. There is no doubt that within a very short period the whole of this morass will be transformed into a fertile tract of arable land.

Another ground of objection is the injury likely to be produced to turnpike trusts. Even if the truth of this objection be admitted, it is not one of sufficient force to warrant the sacrifice of public benefit. A turnpike trust is, or ought to be, held only for the public good; and if it should be affected by the establishment of a railroad, this would only prove that the one was found more beneficial than the other. But it is a curious fact, that this apprehended injury has

not (at least in every instance) ensued. The Stockton and Darlington railway furnishes a remarkable example to the contrary.

Mr. Pease states in his evidence that the turnpike roads in the neighborhood of that railway have been improved since its construction.

"Has there been any advantage derived to the roads in the neighborhood?—I consider that they are all of them in a much better state of repair, and that their funds are improved: I do not know a single exception.

"Do you know the road from Stockton to Barnard Castle?—Perfectly well; I have been a commissioner. In that trust there are two roads running nearly parallel with the railroad, and a third intersected by it.

"Were the trustees of these roads petitioners against the bill?—All of them.

"On what grounds did they oppose it?—That the money borrowed on mortgage was hazarded by the railroad.

"Have their fears been realized?—No; the funds in all cases are improved.

"You state that of your own knowledge?—Yes, as an acting commissioner."

The advantages likely to arise to agricultural producers from the facilities of conveying their produce to market, as well as the reciprocal advantages derived by the consumers, were rendered apparent by the evidence of several farmers and graziers, and also of metropolitan butchers.

Mr. W. Meade Warner, an extensive farmer residing in Oxfordshire, stated that he considered that if the railroad now proposed to be carried from London to Birmingham had been formed ten or fifteen years ago, it would have produced him an advantage of not less than fifty pounds a-year. He considered that the whole system of farming grass land would undergo a change, owing to the new capabilities which would be conferred upon it, by the speed, certainty, and cheapness of the communication with the market. A different kind of produce, of a much better and more profitable quality, would be obtained from it.

"Are lambs sent to London from your neighborhood?—They are, principally on the road; but when too young to leave the mother for so many days as the road requires, they are sent by waggons. Not many, however, are sent by this way.

"Are you prevented from sending many lambs to market by the difficulties of the road?—We cannot send them so young as we would otherwise send them. It is of importance to send them early in the season, as the ewe would feed off earlier.

"If a railroad were established, would they be sent by you and the other farmers by that means?—No doubt of it.

"Do the same observations apply to calves as to lambs?—Exactly.

"Are the cattle much injured by being driven up?—Very much; incalculably."

It is not merely views of policy that should lead us to seek for some improvement in the transport of cattle to the markets. The following evidence is addressed to the feelings of common humanity.

"Supposing that even the cost was increased of sending them by the railroad, would it be of advantage to the farmer to have them conveyed by that means, nevertheless, instead of driving them in the ordinary way?—Certainly; it would be a great advantage. Sometimes the poor things are driven till their feet are sore; and the effect of that is, that they are sold on the road for what they can get. It is often the case, that they drive many of them till they have not a foot to stand on.

"What price, in your opinion, would the farmer be willing to pay for the conveyance of his cattle to London by the railroad, instead of the present present way?—If I paid double, I should still be a very great gainer. It is a very important thing in the saving of beasts and sheep, both as to the exposure and the

nuisance they create on the public roads. Besides that, the cruelty and injury to the animals is beyond all belief.

"Do I understand you rightly, that you would prefer to pay fourteen shillings for transmitting your cattle by railroad, to paying seven shillings for the ordinary means of conveyance?—To be sure I should."

Mr. Charles Whitworth, a very extensive farmer in Northamptonshire, was examined on the same points. He had seen cattle conveyed on the Manchester railroad, and stated that they came from the journey "as fresh as if they were just off the 'field.' He stated, that in order to send the lambs to market, it was necessary to send the ewes a part of the way with them; and 'even then they were much injured before they reached London.'"

The injury sustained by cattle coming to the London market was further proved by Mr. John Sharp, an extensive butcher, residing in Mary-le-bone. He stated that he has been for forty years established as a butcher, and that he never failed to observe more or less injury sustained by cattle driven from a distance to London; that their value was considerably lessened, owing to the inferior quality of the meat, arising from the animal being slaughtered in a diseased state; that the animal, being fatigued and over-driven, "becomes feverish, and his looks become not so good, and he loses weight by the length of the journey and the fatigue." He stated further, that even steam vessels, where they could be resorted to, did not altogether remove this objection. Cattle come from Scotland by steam-vessels, and they are found in London to be in an unnatural state: "they seem stupefied, and in a state of suffering from fatigue."

It is not merely the fatigue of travelling which injures the animal, but also the absence from its accustomed pasture. Mr. Sharp stated that the injury from this cause was more or less under different circumstances, but always considerable. In order to obviate this, a considerable portion of the meat supplied to the London market is slaughtered in the country, and it comes in this state, in winter, from distances round London to the extent of one hundred miles. In warm weather a large quantity of it is spoiled, and a still greater quantity is deteriorated by this mode of conveyance. The transport of calves and lambs, from a distance greater than thirty miles, is altogether impracticable; and even from that distance is attended with difficulty and injury. To convey these and other live cattle from a great distance, not only speed, but evenness of motion, is indispensable. Now these two requisites cannot be combined by any other means than the application of steam-engines upon a railroad.

From the whole of the evidence, the fact appears to be indisputably established, that the supply of animal food to the metropolis is not only defective in quantity, but that it is of unwholesome quality,—comparatively, at least, with what it might be, if the tract from which it could be supplied were rendered more extensive. But forcibly as the evidence bears on this species of agricultural produce, it is still stronger respecting the produce of the dairy and the garden. Milk, cream, and fresh butter, vegetables of every denomination, and certain descriptions of fruit, are supplied exclusively from a narrow annulus of soil, which circumscribes the skirts of the metropolis. Every artificial expedient is resorted to, in order to extort from this limited portion of land the necessary supplies for a million and a half of people. The milk is of a quality so artificial, that we know not whether, in strict propriety of language, the name milk can be at all applied to it: the animals that yield it are fed not upon wholesome and natural pasturage, but in a great degree on grain and other articles. It will not be supposed that the milk which they yield is identical in wholesome and nutritious qualities with the article which would be supplied, if a tract of land of sufficient extent for

the pasturage of cattle was made subservient to the wants of the metropolis. Add to this, that inferior as must be, under such circumstances, the quality of the milk, there exists the strongest temptations to the seller who retails it, to adulterate it still further, before it finds its way to the table of the consumer.

Mr. Warner, already mentioned, stated that, great as the advantage of a railroad would be to graziers who supplied the London butchers, it would be of still greater advantage to dairy farmers.

"Have you ever had offers made to you to supply any part of London with milk?—I have; but have never been able to comply with them on account of the want of a conveyance."

"If there was a railroad, by which you could transmit milk, and thus avail yourself of such an offer, would it add materially to the profits of your farm?—There is no question that it would increase the profit at least 400 or 500 per cent. I have no doubt of it, on milk and butter."

In the produce of the dairy and the garden, it is not merely by smoothness and ease of transport that a railroad would offer facilities. Articles of a perishable nature must be supplied to the consumer within a short period after they are taken from the soil. The speed of railroad conveyance being six or seven times that by cart or wagon, the consequence would be, that such articles would be supplied to the metropolis from a circuit with a radius six or seven times the length of that which now supplies them; and consequently the land which would become available for the metropolitan markets, would be from thirty-six to forty-nine times the present extent; supposing railroads to diverge in all directions from the metropolis, and to be furnished with their usual ramifications.

In our former article on this subject, we attempted to show, by general reasoning, the immense benefits which would accrue, both to farmers and landlords, as well as to the inhabitants of towns, by carrying extensive lines of railroad through populous districts, connecting them with those places from which supplies of food and other necessities might be obtained. We showed that the factitious value which tracts of land immediately surrounding the metropolis and large towns acquire from the proximity of the markets, would be moderated, and a portion of their advantages transferred to the more remote districts; thus equalizing the value of agricultural property, and rendering it in a great measure independent of local circumstances. We showed, further, that the profit of the farmer, and the rent of the landlord, would be benefited by the reduced cost of transport, and that such benefit would be likewise shared by the consumer; in fact, that the advantages of centralization would be realized without incurring the inconvenience of crowding together masses of people within small spaces; and that the whole face of the country would be brought to the condition, and made to share the opportunities of improvement which are afforded by a metropolis, and by towns of the larger class. At that time, however, we had no specific evidence to adduce in support of our reasonings, so as to reach those minds which can be only influenced by a direct appeal to facts. The subsequent extension of railways has brought to light a body of evidence, so extensive, that our only difficulty lies in the selection of such parts of it as may not exceed our necessary limits.

The beneficial effects of the Liverpool and Manchester railway on the value of land in the district through which it passes, have forced conviction upon the minds of those who were the most conspicuous opponents to that project.

Mr. J. Moss, a director of the Manchester railway, gave the following testimony:

"This enormous estimate of the advantage is no doubt founded on the supposition that dairy produce would maintain its present price: an obvious error, but still the advantage would be very considerable."

"Is it contemplated to have a railroad between Birmingham and Liverpool?—It is quite arranged.

"Have you made application to the owners of land for their consent?—As far as our half goes.

"Have you found owners, on the line between Liverpool and Birmingham, to consent to the railroad there, who, nevertheless, opposed the Liverpool and Manchester line?—Several; among others, Lords Derby and Sefton.

"Did Mr. Heywood of Manchester oppose the Manchester railroad?—Yes.

"Did he afterwards complain of its not passing through his lands?—He complained very much of it."

If the ill effects of the opposition, on the part of landed proprietors, to projected railroads, were limited to the injury which they inflict upon themselves, the public would have less reason to complain of it; but unfortunately, other extensive injuries have been thus produced. The opposition by Lords Derby and Sefton to the Manchester railway bill, compelled the company to deviate from the line of road which they first proposed, and which Mr. Stephenson, their engineer, pronounced to be the best. That line must have passed through a part of the property of these noblemen, whose opposition would at that time have defeated the bill. The company were therefore compelled to select another line, which was not only much more expensive in the formation, but which has been since productive of consequences most injurious to the road, and to the interests of the company and the public.

The line which the engineer was compelled to adopt, imposed upon him the formidable enterprise of crossing Chat Moss; and involved the company in an enormous expense in forming a solid road over that extensive morass. This, however, was not the only or the most extensively injurious effect: it became necessary to carry the line of road over an elevation, so that the moving power had to overcome a slope rising at the rate of one in ninety-six in both directions,—extending through more than a mile and a half in each case. We explained in our former article the injury which such an ascent produces: to draw a load up a slope of this degree of acclivity requires an impelling power, amounting to nearly four times the power necessary to draw the same load upon a level; the consequence is, that either auxiliary engines must be kept constantly at the foot of the slope, or else the impelling engine must be constructed with four times the power necessary on the level, and with a proportionate increase of strength and weight. We may safely assert, that no circumstance connected with the Manchester railway has been a more fertile source of expense and inconvenience than this occurrence. But if any thing be wanting to demonstrate the mischief of the proceeding out of which this has arisen, it is the fact detailed in the evidence of Mr. Moss, that a second line of railway has been in contemplation, connecting Liverpool with Manchester; that this second line is countenanced and encouraged by these very noblemen, Lords Derby and Sefton; that it is to pass through their grounds, and, we presume, to take the very course which was originally contemplated by the present railway company, and from which they were driven by opposition.

"Has there not been a scheme for another railroad?—Yes.

"Is it to pass through Lords Derby and Sefton's land?—Yes; they both consented. They threw us back the first year by the opposition to our road, and we then lost such a line as we never could obtain again. Since this, they have both consented that the other line shall pass through their property."

Other proprietors, however, more speedily learned their error, and actually made interest to get the line through their property.

"Do you know Bold Hall?—Very well; it is a fine house.

"Is it near Liverpool and Manchester?—Yes; the proprietor complained very much that we made a complete bend, to avoid his property.

"Did he afterwards wish you to cut off the bend, and go nearer by a straight line?—Yes; and we agreed to go much nearer to his house."

Besides the permanent advantages to land by opening large markets for every species of vegetable, animal, and mineral production, railways are attended with a variety of subordinate benefits, which, though they may appear inconsiderable, when compared with those already mentioned, yet ought not to be wholly disregarded. Among these may be mentioned the extensive employment of the local population in a work in which by far the greater proportion of the labor is of a rude kind; likewise, the purchase of materials of various kinds from the adjacent land-owners. It was proved that on the Stockton and Darlington railway, as well as on other similar works, large sums were paid to the land-owners for gravel, timber and stone, for materials for bricks, and for various other purposes, independently of the land purchased from them. It was also proved that a very large proportion of the poor rates of the parishes through which railways pass are paid by the railway company. The Manchester railway company, for example, contribute not less than £4000 per annum to the poor rates of their parishes.

Mr. Pease stated that more than half the entire rates of several of the parishes through which the Stockton and Darlington railway passes are paid by the railway company. But, in addition to this, the actual amount of rates is lessened by the extensive employment afforded for labor on the railway. Mr. Lee stated, that of the poor rates in the parish of Newton, one-fourth part was paid by the Manchester railway company.

The speed of transit, and the consequent frequency of communication between places of great commercial intercourse, are matters the importance of which can scarcely be overrated in this country. The time between Liverpool and Manchester, being a distance of about thirty-one miles, is now about an hour and a half; there are three deliveries of letters by post daily between these two places, so that two letters may be written and one answer received by the same correspondents in the course of a day. The frequency of communication might be still greater: nine trains of coaches start daily from each place, and, if it were necessary, there might be nine deliveries in each town. When the lines of railway from London to Birmingham, and from Birmingham to Manchester, shall have been completed, the time from London to Liverpool will be about eleven hours; the mail which leaves London at eight o'clock in the evening will therefore be delivered in Liverpool before nine the following morning. The time between London and Birmingham will be five hours and a half; there will probably, therefore, be two mails daily. The letters despatched from London at eight o'clock in the evening would be delivered in Dublin the following evening. From some improvements which are in progress in the steam-packets, it appears that, under average circumstances, they may be depended on to make the voyage from Liverpool to Kingston (near Dublin) in ten hours; the mail which would arrive at Liverpool at seven in the morning would therefore be at Dublin at six in the evening, so that the Dublin merchants could answer their London letters the same night. It would, therefore, be possible that an answer to a letter from London to Dublin could arrive in London in about fifty hours after the despatch of the letter.

In the evidence of Mr. Moss we find a striking instance of the preference given by the public to railroad conveyance.

"Do you know whether there are some places on the line from Liverpool to Manchester where persons go down a considerable distance to come to the rail?—Yes; Southport is an exam-

ple. This town is 38 miles from Manchester, and 25 from Liverpool. Persons going to Manchester prefer to come the 25 miles to Liverpool, and 30 along the railroad, making 55 miles, to going 38 miles by the direct road to Manchester.

"Do they do that with a saving of time and expense?—They save both time and expense.

"Being aware of these facts, and knowing the projected line between London and Liverpool, are there many places from which persons would come to the railroad, for the purpose of going to London, rather than take the direct turnpike-road?—Yes; all places in the manufacturing part of Yorkshire, such as Bradford, Halifax, and Leeds; they would come to Manchester, and there take the railroad.

"What would be the saving from Leeds?—It would be 40 miles round; but it would save four hours in time, and £1 in money.

"What would be the saving from Rochdale?—Ten hours in time, and 30s. in money."

A large portion of the time of those farmers and graziers, living at a distance from London, who are obliged to attend the London markets, is consumed in making the journey. Mr. Robert Attenborough, a farmer and grazier residing at Braybrook, eighty miles from London, stated that his business obliged him to attend once a week at Smithfield market; that it takes him three days and a night, travelling at night, to go up to London, do his business, and return; that he seldom gets home till four o'clock on Sunday morning; and that a like inconvenience is sustained by the other farmers and graziers in his neighborhood: that besides the expenses on the way, the fare of the coach is £3 4s., and that the sacrifice of his business at home is the consequence of his journeys to London. A railroad would take him to London in about four hours, and starting in the morning he could arrive at home at a reasonable hour the same night.

By the evidence of other witnesses it appeared that a saving to a very large amount has been made by houses of business in Manchester, since the establishment of the railway, in their agencies alone. Some notion of the extent of this may be formed, when we state that several houses have saved £500 a year in this item of expenditure.

The advantage of the increased speed and cheapness of communication obtained by railways, worked by steam-engines, is not confined to the saving of the time and money of those who are compelled by business, or induced by pleasure, to travel. Vast numbers, who, under other circumstances, would remain stationary, find it for their advantage to avail themselves of the opportunities of intercourse with distant places thus opened to them. It appears by the evidence of Mr. Booth, that before the establishment of the railway between Manchester and Liverpool, there were about twenty-two regular coaches running between these places; these coaches were licensed to carry about 700 persons; and taking them at their average number, they may be estimated as having transported 450 persons daily between these two towns. The inside fare was ten shillings, the outside six; and the time of the journey varied from four hours to four hours and a half. The fare at present, on the railroad, by the first class train, is five shillings and sixpence, and by the second class three shillings and sixpence—being about half the fare by the coaches; and the time of the first class an hour and a half, and of the second class two hours—being less than half the time occupied on the turnpike road. The number of passengers between the two places in the six months ending in December, 1833, was 215,071 booked; to which, if we add 5000 for the passengers taken up on the road and not booked, we shall have a total of about 220,000; if we divide this by the number of days in the half-year, we shall find that the average, daily, including Sundays, was 1,209,

It appears, therefore, that the number of passengers between these towns has been tripled since the establishment of the railroad; in other words, about 800 persons daily, who have occasion to pass between the two places, but who were before prevented from doing so, either by reason of the time or expense of the turnpike road, are now enabled to perform the journey.

[To be continued.]

We have great pleasure in publishing the following letter and facts, furnished us by an esteemed friend now abroad.

London, Sept. 23, 1834.

To the Editor of the Railroad Journal, &c.

SIR,—Having occasion, a few days since, to accompany two Philadelphia gentlemen to call on Mr. Hancock, who has steam carriages travelling on the common roads of this metropolis, I beg to give you some memoranda of the information I obtained from the conversation with that gentleman, which may probably interest the numerous readers of the excellent and most useful "American Railroad Journal," which I receive regularly from my brother in Philadelphia, and always peruse with the greatest pleasure.

Enclosed I send you the principal information derived from Mr. Hancock. I have sent by the packet, a colored engraving of the "Autopsy" and "Era," to a friend in New-York, with the request that he would hand it to you in my name.

Before I left home (Philadelphia) last spring, I had frequently endeavored to gain information respecting the expediency (the practicability has been established beyond doubt by the engines of Gurney, Ogle, Hancock, Maceroni, &c.,) of steam carriages on turnpike roads, and pavements, but could not obtain any facts to satisfy me that they could be used in competition with coaches drawn by horses. Since my arrival in London, the information given induces me to believe they may, under favorable circumstances, in this country, compete with animal power, but I strongly doubt whether they will answer equally well in our country; and I think it highly probable that, in the course of a short time, they will be much more generally used in England for stage coaches, and for the transportation of the mail. This opinion is founded on the following circumstances; 1st, horses are costly in England, and are maintained at great expense; 2d, the roads are good, and kept in perfect order; 3d, steam power is cheap, owing to the low price of all machines made of metals, as well as the low price of fuel. In our country, on the contrary, horses are cheap, and are supported at one half the cost that is customary in England; 2d, our roads are unfortunately constructed on wrong principles,* and are consequently excessively bad, and will remain so until they are made on a better plan; 3d, fuel and labor are expensive in our country. From the above mentioned circumstances, I think there is some probability of their becoming useful machines in this country, but I cannot suppose they will

* To prevent misconception, it may be proper to mention in what respects our turnpikes are defective. 1st, They are too convex; they rise too much from the sides to the centre, and the consequence is that all the travel is forced on to the crown of the road, which is soon worked into four ruts, two of which are formed by the two horses' feet; the other two by the wheels of the carriages; but if the roads were nearly flat, as they are in England, the travel would be equal over the whole surface, and then every part of the road would be equally good. The 2d defect is the metal is not homogeneous, (hard and soft stone ought never to be used together,) and not broken sufficiently small. The 3d defect is the absence of sufficient under-draining. On our turnpikes, and indeed even in our streets, I have seen uncovered drains across the roads, which of course cause an inequality of the surface, and injure the carriage and horses, and interfere with the comfort of the persons in the carriage. I hope most sincerely my countrymen will "mend their ways;"—they are now abominable; and it would not be more expensive to make roads equally good as those in Great Britain and Sweden, than to make them in their present bad condition.

be profitably employed in the United States. There are, however, some roads and streets on which they might be used: for example, between Boston and Salem; between Providence and Pawtucket; from the Battery to the highest part of Broadway in your city; and from the Exchange to the Schuylkill river, in my city; and there may be some other locations, which, however, it is unnecessary to mention, where the roads may be sufficiently good to enable the locomotives to travel on them; but it is out of the question to expect them to travel over turnpikes equally bad as those of my native state, which, although not so bad as in some of the other states, are so rough as to be discredit to our citizens.

I have written you a few hasty lines, which, however, are at your service, if you wish to make use of them, and if I can do any thing to be useful to your publication whilst in this country, I shall be much pleased to aid in any way you may point out. My address is, care of Timothy Wiggan, Esq., London, or care of A. & G. Ralston, No. 8 South Front street, Philadelphia, by which channels every thing will be carefully forwarded to me. I am, very respectfully, your obedient servant,

GERARD RALSTON.

Liverpool, Oct. 24, 1834.

Postscript.—By some oversight, I find that I did not send this communication to you at the time I ought to have done so. The engraving I sent under cover to Messrs. Wm. G. Bull & Co., and requested them to hand it to you. Since the date of my preceding letter, I have made several journeys in the "Autopsy" and "Era," and have not seen nor heard any thing to alter my views as expressed above.—It is, however, proper to mention to you that, from my occupation in this country, viz.: to furnish railway iron, locomotives, &c. &c., for various railroads in the United States, I am frequently brought into company with some of the most eminent engineers of this country, of all of whom I have inquired their opinions respecting the expediency of locomotives on turnpikes—they have invariably replied, "They will not be profitable." They say, "You can see them running on the roads—they go beautifully, and you suppose prosperously, but they work to a disadvantage of 10 to 1 compared with locomotives on railways, and it is impossible for them to supersede horses on turnpikes or locomotives on railways."

Mr. Hancock, who is undoubtedly a man of genius, and is, withal, very quiet and unpretending, appears quite confident that he has succeeded, and that he is now making money. In a few months more, it is probable, if he continues to run, that he will be able to divulge to the public something of an official character, that will satisfy all doubters either of the expediency or inexpediency of this mode of locomotion. The question is no longer one of practicability, but of profit. It is proved to be practicable; but will it be profitable, is the important question. I shall return to London in a few days, and should I hear any thing of importance on this subject, I will have the pleasure to communicate it to you. In the mean time, yours, respectfully,

G. RALSTON.

Facts relative to the Use of Steam Carriages on Common Roads, furnished by Mr. G. Ralston.

Called on Mr. Hancock, who gave me information respecting the "Era" and "Autopsy," constructed by him, as follows.

The cost is £700 each. They each have 2 steam engines, of about 10 to 12 horse power, high pressure, and accommodate 14 passengers each. Coke is the fuel used; $\frac{1}{4}$ bushel per mile is consumed, and 100 lbs. of water per mile. The capacity of the boiler is 700 lbs. of water, which would be sufficient for a distance of 7 miles. The weight of the omnibus complete is 3 tons, exclusive of fuel and water. The road and pavement, (from the neighborhood of the Bank of England to Paddington,) over

which these carriages travel, is the worst in the neighborhood of London; indeed, I think it the worst road I ever saw in England. The distance is 3 miles on the most frequented thoroughfare in the world, and it is astonishing how perfectly controllable it is, how easily it is guided, how easily stopped—indeed, it is much more controllable than a two horse omnibus. It goes at the rate of 10 to 12 miles per hour, which, for the present, is considered the most economical speed. The Pentonville hill, which these carriages ascend, has a rise of 1 in 20, but the Autopsy has gone over hills on the Brighton road of 1 in 10 feet. There is a hill between London and Brighton of $\frac{1}{4}$ mile long, which this carriage ascended at the rate of 9 miles per hour, at the commencement of the rise, and gradually diminished its speed to 6 miles per hour. The "Era" performed the following wonderful feat a few days ago: She dragged the "Autopsy" over the bad road to Paddington, up the Pentonville hill to the station, both carriages being full of passengers. The weight of the two, with their loads, is estimated at near 8 tons.

We learn from the proceedings of the Georgia Legislature, that the bill for the construction of a Railroad from Savannah to Macon, has been rejected in the House; yeas 59, nays 105.

Railroad from Nashville to New Orleans.—A meeting was held at New Orleans on the 20th ult. to consider the expediency of constructing a Railroad from that city to Nashville. A resolution was passed "that the nature of the country between New Orleans and Nashville presents the greatest possible facilities for direct and rapid communication by means of a Railroad, and the nature of the transportation and the number of travellers will fully sustain the expense of such a road." A Committee of twenty was appointed to procure subscribers of \$100 each, to an Association having for its object the taking of preparatory measures for the construction of such a Road,—the money to be expended in making examinations and surveys. The distance must be 400 or 500 miles. A direct course from Nashville to New Orleans, would pass through a corner of Alabama, and almost the whole length of Mississippi.

Wabash and Erie Canal.—Five miles of the summit section of this Canal have been completed and are ready for navigation. We learn from the Fort Wayne Sentinel that an additional portion of eight or ten miles will be completed in a few days.

The Great Belgic Railway.—The probability is that the line of road, after passing the lower part of Verviers, will follow the course of the Vesdre by Limbourg to Eupen; then, taking the direction of the Dente, by Cornelis Munster, as far as Eschweiler, will leave Aix-la-Chapelle about a league to the west, and proceeding by Duren and Keryen, will cross the Roer and Ert with several of their tributaries, and traverse the plain of Cologne nearly in a straight line to the Rhine, a distance altogether of about seventy English miles. The company, whose intention it is to commence operations as soon as the Belgic works approach the Prussian frontier, comprise most of the great commercial men and bankers of Cologne, Coblenz, Dantz, Duren, Kerpén, and Aix-la-Chapelle; whence there will be an embranchment to Cornelis Munster. In short, throughout the Rhenan provinces, where there is no other canal than that which connects the Rhine opposite Dusseldorf, with the Meuse at Venloo, and no other mode of transport but by the tedious process of cartage (rouitag), there is but one opinion and one voice on the subject. The boat-owners and shippers on the Rhine, Moselle, Lahn, Main, and Aar, are no less desirous for its success; for the natural consequence must be to render Cologne the great depot both for colonial and inland produce, and consequently to transfer the water-carriage monopoly from the hands of the Dutch into that of the Prussians.—[Letter in the Morning Chronicle.]

The Indian rubber tree of South America grows 4 and 500 feet high, and expands to proportionate breadth. Another valuable tree of that continent is the cow tree, whose leaves always appear withered and unsightly, but which produces vast quantities of liquid aliment, resembling milk. The natives obtain it by boring the trunk.

Annual Report of the Superintendent of Machinery of the Baltimore and Ohio Railroad.

Office of the Superintendent of Machinery,

Oct. 1st, 1834.

To PHILIP E. THOMAS, President, etc.

In accordance with the rules and regulations for the government of the officers and agents of this Company, I now respectfully submit the following Report of the operations of the department of Machinery, for the year ending on the first day of the present month.

The subjects that engage the attention of this department are every day assuming a deeper interest. There is, perhaps, a point in the improvement of the construction of machinery beyond which human ingenuity cannot reach: but no man, at this time, can designate that point. In the other departments, connected with the general system of Rail Roads, there is a degree of perfection which cannot be passed, and every one can perceive it. In the graduation, the straight line without curvatures, without elevations or depressions, is not only conceivable, but, if means adequate to the accomplishment of the object, by bridging rivers, cutting through hills, or tunnelling mountains, and filling up valleys, be applied, it is perfectly practicable. But in the construction of machinery the case is very different. Here, improvements are every day taking place; not by the discovery of new mechanical powers, but by new and, seemingly, endless combinations of them. The application of these powers and principles are, in fact, so varied, and so complicated, that no mechanical attainment has sufficiently penetrated the arcana of science, to fix their ulterior limits, and say, thus far shall invention advance, and no farther. There is, then, a boundless field open to the machinist. Many discoveries have been already made by bold and ingenious adventurers. Much has been done in the last and present century, and advances have been made, which, 60 or 80 years ago, would have been deemed chimerical. To say nothing of the improvements in chemistry, and the correlative arts, nor of the endless variety of machinery employed in manufactures, the application of the power of steam, and the various and important uses to which it has been rendered subservient, from the ponderous and capacious steamboat to the smallest engine, substituted for animal or water power, challenges the wonder of the ignorant, elicits the congratulation of the learned and of the friends of science, and excites the emulation of mechanicians to make still further discoveries in a field that is yet inexhausted, and, so far as appears, is inexhaustible.

The locomotive engine dates its birth but a few years back; yet, young as it is, it has already acquired much of the vigor and activity of adolescence; what may not then be expected, when it shall have attained to the steady, firm, untiring step of mature age? The voice of experience, even on the Baltimore and Ohio Rail Road, proclaims that great advances have been attained in the construction of locomotives, from the first efforts made by the Company, as well as by others, who, at their own expense and risk, entered the field of competition.

Although the rail road system originated in England, yet it was very evident that the best constructed machinery, in use there, was exceedingly defective; and that unless several material improvements could be effected in the parts most liable to wear, and also in the construction of locomotive engines, the expense, arising from repairs and renewals, would seriously affect the success of the railroad here. Our attention, therefore, was, from the first, especially directed to the improvement of this all-important branch of the system, and our progress has been considerable, in every particular. A great reduction of friction, as well as of the consumption of oil, has been attained, and a degree of permanence given to the road wheels, which has, it is believed, never heretofore been effected. Some of these have trav-

ersed a course of about 24,000 miles, without exhibiting evidence of being perceptibly impaired. This permanence is owing to an increase in their weight, and to the introduction of a strong wrought iron ring into the interior of the rims of the wheel, and a more perfect chilling or case-hardening of its periphery, especially the conical part of it.

In the year 1830, Peter Cooper, Esq., illustrated, by an experiment, with a small working locomotive engine, with a tubular boiler, the practicability of using Anthracite coal as fuel. Subsequently, Phineas Davis, in conjunction with the engineers and machinists of this company, has, by a series of experiments, introduced several essential improvements, resulting in a triumphant success and in the construction of locomotive engines of great power, strength and durability. Several of these have been put in operation upon the Baltimore and Ohio Rail Road, and their performance has exceeded the expectation of the most sanguine, being decidedly greater than that of any other engine of similar weight yet known. Anthracite coal is exclusively used as fuel, being not only more economical, but is found to emit neither smoke nor burning particles, so annoying to passengers, and so universally complained of in the engines of the usual construction.

In several particulars these engines differ essentially from those heretofore in use. They are more compact, and have a greater fire surface in a more limited space—the powerful fanning apparatus, impelled by the waste steam, pouring a constant and impetuous stream of air through the furnace, and always ensuring the combustion of the Anthracite coal—the ingenious contrivance by which the waste steam is applied, to heat the water, in its passage from the supply pipe to the boiler, and the manner of protecting the principal part of the machinery from the irregular action of the road wheels, constitute together, striking features in this admirable specimen of American invention and ingenuity.

The workmanship in all the engines, recently constructed at the manufactory of the Company, exhibits considerable improvement; the materials of which they are composed are of the first quality, and all the principal points subject to wear have been rendered more permanent by case-hardening.

As an evidence of the durability of these improvements, the Arabian locomotive engine continued to run 50 days between this city and the Inclined Planes, a distance of 82 miles, daily, making 4,100 miles, without requiring repairs or showing any perceptible wear or deterioration.

As the ultimate success of the enterprise mainly depended upon the employment of engines adapted to the curvatures of the road, and to the use of Anthracite coal, and of such a permanent construction as would not require frequent repairs, it cannot fail to excite the highest gratification in the friends of the measure, that so signal a triumph has been achieved, in the production of those machines possessing these properties in so eminent a degree.

The machinery now on the road, and in active use, is as follows:

Locomotives.—1st. The Atlantic, now undergoing an alteration, which will render her equal in power to the other engines more recently built.

2nd. The Traveller, employed in the transportation between the Mount Clare depot and Ellicott's Mills, of passengers and of goods.

3d. The Arabian, which continued for 50 days, in succession, to run from the depot to the Plains with the Frederick train of passenger cars, the daily expense being as follows:

Coal, 14 tons, at \$6 per ton,	\$7 50
Engineer,	2 00
Assistant do.	1 50
Oil,	50
Interest on cost,	75
Contingencies,	1 00
	\$13 25

To this it will be safe to add three dollars per day for repairs that may become necessary to maintain the engine in good order.

4th. The Mercury, of the same power as the Arabian, has been running 20 days at the same daily expense as stated above.

The abovementioned four engines were built by Phineas Davis; who, from his first effort in constructing the York, to the full attainment of the Herculean powers of the Arabian and Mercury, has made rapid advances in perfecting these machines, affording encouraging prospects of still farther improvements. As far as the experiment has been made, the cost of transportation is lessened, and it has already been ascertained that when steam power shall be so far employed as to enable us to dispense with horse power, the balance will be found materially to preponderate in favor of the former.

Four new passenger cars have been constructed during the present year, viz.

1st. The Winchester, carrying 36 passengers, on 8 wheels.

2d. The Dromedary, a large and commodious car, 8 wheels.

3d. The Comet, a car with 5 bodies, carrying 40 passengers, 8 wheels.

4th. The Patterson, on 4 wheels.

Four of the old cars have been repaired, and placed upon 8 wheels.

All the other cars are in a respectable state of repair, and will probably do service through the ensuing winter, with but little additional expense.

The number of burden cars now in the service of the Baltimore and Ohio Rail Road Company is 1,000, exclusive of 27 employed on the Washington road.

The passenger cars hitherto in use, on this road, generally resembled, in many respects, the usual stage coaches—most of those built within the present year are materially different from them in appearance and arrangement—the bodies are long, and supported on 8 wheels, which are so placed as to pass the curvatures of the road with greater facility than the ordinary kind of car. These are not only more commodious, but they afford additional security to the passengers; they are simple in construction, and very strong, and consequently will seldom require any repairs, by which a great saving will be effected. During the time these carriages have been in use, several further improvements have been suggested, and a plan is now adopted, which, it is thought, when introduced, will be very safe and commodious, and meet the public approbation.

The total number of passenger cars now in the road is 34.

The ten passenger carriages, ordered to be built for the Washington Rail Road, and which, when completed, will convey upwards of 350 passengers, comfortably, are now under construction, and will be ready for service, as will also the four new locomotive engines intended for that road, by the time it is finished.

In relation to the duration of wheels, it may be stated that those with metal rings in them, upon the following named passenger coaches, have performed, as underneath, whilst several of the same wheels present but little appearance of deterioration, viz.:

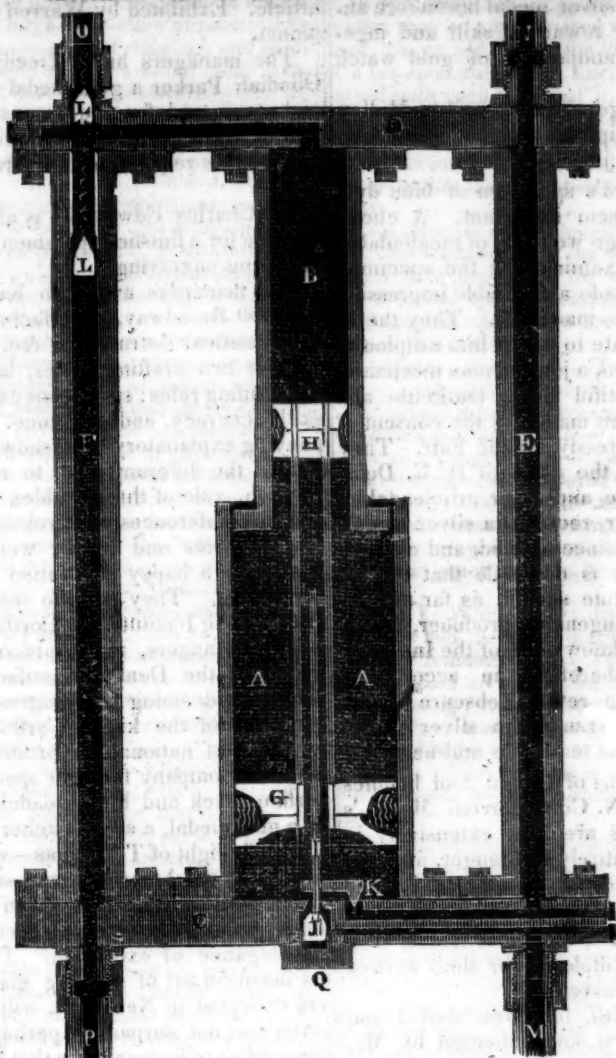
	Miles.
President, 300 days, 82 miles per day,	25,388
Virginia, 300 do. " "	24,600
Alleghany, 290 do. " "	23,780
Shenandoah, 259 do. " "	21,238
U. States, 240 do. " "	19,680
Pioneer, 220 do. " "	18,040
Maryland, 240 do. " "	18,450

7) 151,126

Average, 21,569

Respectfully submitted,
GEORGE GILLINGHAM, Sup't of Machinery,
B. & O. R. R.

SECTIONAL VIEW OF R. PORTER'S INDEPENDENT PUMP.



Explanation.—A A, interior of the steam cylinder; B, interior of the pump cylinder; C, bed plate; D, cap plate; E, steam column; F, water column; G, steam piston; H, pump piston, and head of the piston rod; I, valve rod, where it passes through the cross spring; J, induction valve; K, eduction or exhaust valve; L L, pump valves; M, steam pipe; N, exhaust pipe; O, suction pipe; P, injection pipe; Q, short screw, which closes the valve chamber.

Improved Forcing Pump.

To the Editor of the Mechanics' Magazine:

Sir,—Permit me to inform the public, through the medium of the Mechanics' Magazine, that I have recently constructed, and have now in successful operation, an improved forcing pump, which will invariably keep the boiler of a steam engine supplied with water, to a given and uniform height, without ever permitting it to rise above; acting independently of the steam engine, being operated directly by steam from the boiler; and keeps the boiler as well supplied, while the engine is at rest, and even while blowing off steam, as at other times; and that without any attention from the engineer. I have made arrangements to have them manufactured to order, (warranted, of course,) by Mr. D. Copeland, Hartford, Conn.

Specification.—A hollow cylinder, four and a half inches in length, and two inches in diameter, having a flange at one end, is placed in a vertical position on the centre of a horizontal plate, which is six inches long, three inches wide, and half an inch thick, and to which the cylinder is secured by screws, passing through the flange into the plate. On the two ends of the plate are two vertical columns, each being eight inches in length, and three-fourths of an inch in diameter; and having a flange at each end, and an orifice three-eighths of an inch in di-

ameter in the centre, are likewise secured to the plate by screws; and, in like manner, the heads of the columns are attached to another similar plate which rests on them. Another cylinder, four inches long, and one inch in diameter, is also attached by flange and screws to the centre of the under side of the cap plate, so that the bottom of this cylinder comes within, and, having a flange of the requisite size, closes the top of the cylinder first mentioned.

Within each cylinder is a piston with suitable packing, and the two pistons are connected by a hollow rod, five inches long, and half an inch in diameter; each piston occupying one inch of the end of the rod, thus leaving a space of three inches between the two. Within the piston rod is a valve rod, three and a half inches long, and one-eighth of an inch in diameter, having a flange head at the top: not so large, however, but that it will pass freely within the hollow of the piston rod. The other end passes downward, through an aperture in the centre of the bed plate, into a valve chamber, which consists of an orifice of half an inch diameter, extending upward from the bottom of the bed plate to within an eighth of an inch of its upper surface, and being closed at the bottom by a short screw, which also has a cavity in the end, the better to accommodate the valve. From one end, and near the bottom of the

bed plate, an orifice an-eighth of an inch in diameter is drilled horizontally to the valve chamber. Directly over, and parallel to this, is another orifice, which extends nearly to the valve chamber, where it meets with a vertical aperture from the upper side of the plate. These orifices are both closed at the outward end, but the first has a vertical communication with a small steam pipe, which is attached by an union joint to the bed plate, directly under the column, (which is called the steam column,) and the other has a communication upward, by another aperture, through the steam column, to another pipe, which is attached to the upper side of the cap plate.

Several small apertures, nearly in contact with that in the centre of the bed plate, complete the communication between the steam pipe and the steam cylinder; and these are closed occasionally by a circular or conical valve, three-eighths of an inch in diameter, which is attached to the bottom of the valve rod. Another conical valve is attached to an arm which projects from the valve rod an eighth of an inch above the upper surface of the plate; this valve occasionally closes the aperture which communicates with the steam column; thus, the same motion of the valve rod, which closes one valve, opens the other. A thin elastic spring, two inches long, and half an inch wide, extends horizontally across the bottom of the steam piston, (which is a little concave,) being fastened to the piston by a screw at each end; and the valve rod passes through the centre of the spring. Thus, when steam is admitted, and drives the pistons upward, the spring receives the flange head of the valve rod, and, by raising it, instantly shuts off the steam; and, at the same time, raises the other valve, and thus allows the steam within the cylinder to escape by way of the steam column. From the upper side of the steam piston, two small rods, opposite and parallel to each other, extend upward through the bottom flange of the small cylinder, and through the cap plate; to the heads of these rods is attached a weight or spring, by which the pistons, when relieved from the action of the steam, are again forced down; and, by this motion, the horizontal spring comes in contact with the exhausting valve, shuts it down, thus opening the other, which again admits the steam to the cylinder.

Two other pipes, (water pipes,) are attached by union joints to the two plates, the one above and the other below the other column, which is called the water column, with which they communicate by apertures through the two plates. The cap plate is perforated horizontally from the aperture to the centre, thence downward, thus opening a communication between the water column and the small cylinder. Within the water column is a puppet valve, and above it, near the upper surface of the cap plate, is another; both of which are held to their seats by spiral springs, opening downward, so as to admit the descent, but prevent the ascent, of water through the column and pipes. (The whole apparatus may be inverted, however, which would preclude the necessity of spiral springs.) By this arrangement, when the pistons are moved down, the small cylinder is filled with water from the upper water pipe, which communicates with a reservoir; and when the pistons are moved upward, the water in the cylinder is forced down through the water column to the boiler. Thus, by

the force of steam, emitted from the boiler by one pipe, water is injected by another. Another advantage is derived from having the steam pipe descend to the proper water line in the boiler; that whenever the water, by the injection of the pump, rises above said line, the water is forced up in the steam pipe, and thus chokes the valves and retards the motion of the pump, while the water, thus escaping, is forced through the exhaust pipe, which also terminates in the reservoir.

I claim as original the construction and arrangement of the plates, cylinders, columns, and valves; and the application of steam direct to operate a pump, as connected with the regulating principle derived from the descent of the steam pipe to the water line as above described.

RUFUS PORTER.

Supplemental Report of the Seventh Annual Fair of the American Institute.

The managers, anxious to do exact justice to the exhibitors, and to correct any errors that may have occurred in the confusion incident to a public exhibition, where more than five thousand articles were presented, have deemed it proper to make a supplemental report. They have been induced to do this, partly in consequence of certain facts having been brought to their knowledge since the exhibition, which, if known, would have varied their award. The extent of the fabrication of certain other articles of great utility, and of general consumption, demand a more pointed public notice than was given in the original report. They are satisfied of this, also, partly from information obtained since the exhibition, as well as from a careful review of the reports of the judges.

The case of incorruptible artificial teeth will first be noticed.

When the judges on these articles first met and reported, specimens from only two exhibitors had arrived. Afterwards, S. W. Stockton brought other specimens, and challenged competition. The successful competitor in the first instance consented to enter the list of competition again, and thereby waived the advantage he had acquired by the decision of the judges at their first meeting. At their second examination, the decision was unanimous in favor of Stockton's specimens. But the fact of this mutual agreement, and the waiving on the part of the party interested in the first decision of the judges, not having been positively ascertained, no notice was taken by the managers of either decision in the awarding of premiums. But the judges having subsequently certified that the last examination was with the consent and approbation of the successful competitor in the first instance, the managers have deemed it due to Mr. Stockton that he should be noticed; they therefore award to S. W. Stockton, of Philadelphia, a silver medal, for the best specimen of highly perfected incorruptible artificial teeth. And inasmuch as J. Plantou & Sons, of Philadelphia, exhibited the second best specimens, at both examinations, the managers award to them a diploma.

The managers have carefully examined into the extent and importance of the manufacture of watch dials, by Mullen & Ackerman, No. 101 Warren street, city of New-York. The accuracy and elegance of the workmanship, the facility with which they can be multiplied, the great demand they are competent to supply, and the saving ef-

fect for the consumers, entitle them, in the opinion of the managers, to a gold medal, in lieu of the silver medal heretofore announced, as the "reward of skill and ingenuity for the manufacture of gold watch dials."

And the managers also award to Mullen & Ackerman, a diploma, for handsome specimens of filagree jewelry.

Mr. T. Fossard's specimen of blue dye, the committee deem important. A cheap substitute for indigo would be of incalculable value; and the examinations the specimen underwent have made a favorable impression on the minds of the managers. They therefore did not hesitate to award him a diploma.

Matthias Ludlum, a journeyman mechanic, produced a beautiful brass tea-kettle and heater, which were made, by the consent of his employer, expressly for the Fair. They were exhibited in the name of D. E. Delavan, who, for these and other articles taken by him to the Fair, received a silver medal. Mr. Ludlum has since applied, and claimed the premium. It is desirable that the rewards of the Institute should, as far as possible, reach the ingenious producer, where he is brought to a knowledge of the Institute. The managers, therefore, in accordance with the desire to reward obscure merit, award to Matthias Ludlum a silver medal, for a beautiful brass tea-kettle and heater.

Choice specimens of turned tool handles were exhibited by N. Cowenhoven. Mr. C.'s manufactured tools are sold extensively in this city; he is entirely self-taught, and deserves a public notice for his ingenuity. The managers award to him a silver medal.

The managers also award to Alfred Willard, of Boston, a diploma for shell worked combs, elegantly carved.

To Francis Smith, for brass shovel and tongs, made by him, and delivered by Mr. Delavan at the Fair, the managers award a diploma.

They also award to Geo. Bird a diploma for imitation mouldings.

Miss Sarah Seager, 233 Thompson street, is entitled to praise for a handsome flower-piece, painted in oil. The managers award her a diploma.

Specimens of cut and pressed glass from the Union Glass Company, Philadelphia, were worthy of commendation.

Post's hame-collar block has met with much commendation.

Robert Fazon's improved cooking stove has also been highly approved; sold at No. 13 Bowery. A diploma is awarded him.

James Van Dyke, Brooklyn, Long Island, exhibited samples of excellent mustard made by him. It is hoped, as an American article, it will find favor with American consumers.

Messrs. E. & T. Fairbanks exhibited their patent portable scales, which are a convenient and excellent article—for which a diploma was awarded. A specimen model may be seen at the office of the Institute, No. 41 Cortlandt street.

T. W. Clisby, No. 12 Tenth street, exhibited an ingenious architectural engraving of the Ionic capital of the temple of Ilyssus, as described by the inventor. The illustrations profess to show the centres of the spiral scrolls of the volute, and to prove that they accord with mathematical principles. The engraving may be seen at No. 41 Cortlandt street.

A specimen of Asiatic marble, of the

Breccia species, imported in its rough state, hewed and polished in this city—a beautiful article. Exhibited by Warren Gould. A diploma.

The managers have already granted to Obadiah Parker a gold medal for his artificial stone, and for the purpose of enabling him to make more public his discovery, they have, at his request, also awarded him a diploma.

To Charles Edwin Ely is also awarded a diploma for a finished specimen of ornamental writing engraving.

The managers award to Kutz & Adams, No. 300 Broadway, manufacturers of rules, mathematical instruments, &c., a silver medal, for two drafting scales, and two engineer sliding rules: specimens exhibiting great skill, accuracy, and elegance. An accompanying explanatory book shows the application of the different rules to multiplication, division, rule of three, tables of the areas and circumferences of circles, mensuration of superficies and solids, weighing of metals, &c.: a happy illustration of mental labor saving. They may be seen at the Library of the Institute, 41 Cortlandt street.

The managers, in accordance with the wishes of the Denny Manufacturing Company, and deeming the progress of the manufacture of the kind of articles exhibited by them of national importance, award to the said Company for their specimens of superfine black and blue broadcloths, in lieu of a gold medal, a silver pitcher.

The fanlight of T. Thomas—vitrified glass, displaying the American arms surrounded by the stars of the 13 States within a tri-colored border—deserves particular commendation for elegance of execution. The long lost but beautiful art of staining glass is revived and executed in New-York with a degree of perfection not surpassed perhaps by any of those relics of former times that have reached us. Mr. Thomas's specimen may be examined at No. 41 Cortlandt street.

Miscellaneous, Foreign and Domestic.

[Continued from page 676.]

12. *Carrageen, or Irish Moss.*—*Chondrus crispus*, Lyngbye, Hydropt. Dan. p. 15, t. 4. Greville, Algæ Brit. p. 129, t. 15. *Sphaerococcus crispus*, Agardh, Sp. Alg. 1. p. 256. *Fucus crispus*, Lin. Syst. Nat. ii. p. 718. Turn. Hist. Fuc. p. 216-7.

This moss is common on rocks and stones, along the coast of Europe; it is also a native of the United States. A very variable species, but easily recognized when the eye is accustomed to it. The genus *Chondrus* belongs to the order Floridæ of the great natural family of the Algæ. All the species have a cartilaginous frond, which is flat, without nerves, dichotomous, dilated at the extremity, and of a livid reddish color; the fructification consists of scattered capsules, mostly immersed in the frond, rarely pedicellate; seeds minute, rounded.*

This moss, abounding on the southern and western coasts of Ireland, has been used by house painters for sizing; it has likewise been highly esteemed by the inhabitants as a dietetic remedy for various diseases, more especially for consumption, dysentery, rickets, scrofula, and affections of the kidneys and bladder. Dissolved by being boiled in water, a thick jelly is produced, more pure and agreeable than that procured from any other vegetable, which is found to agree better with the stomach than any prepared from animal substances. Its chemical composition appears to me, as far as

* I am indebted to Dr. John Torrey, for the communication of the botanical description.

I have been able to trace it, of very considerable importance; the jelly formed by dissolving it in hot water is not only composed of starch, but contains a large proportion of pectic acid; a considerable quantity of sulphur, and some chlorine and bromine, and another acid combined with lime, have been discovered,—the latter proves to be the oxalic acid.

Neither the fungic nor boletic nor lichenic acids could be detected, and the existence of iodine I have not been able as yet to detect. By extracting the pectic acid with caustic potassa, I found the moss taken up and altogether dissolved; and after treating the gelatinous mass with chloride of calcium, muriatic acid, and applying alcohol to separate the acid, at least 0.6 of this last was the result.

By reducing the moss to coal and dissolving it in water, sulphuretted hydrogen gas was evolved very abundantly; protoxide of iron, subcarbonate of potassa, diluted sulphuric acid, and lime water, gave copious precipitates.

The chemical characters of this moss are too interesting to be considered as completely determined by the few superficial experiments undertaken to discover its properties, especially as they were made at a time when I have been continually interrupted by an attention to the duties of my profession, and I consider them as having been undertaken more for the satisfaction of my curiosity, than as tending to a complete and scientific investigation of such an invaluable medical substance as carrageen, but I hope to be able very shortly to develop with more accuracy the entire composition of this singular moss.

The carrageen seems to possess qualities similar to the Iceland moss, which, according to Berzelius' last analysis, (a master-piece in every respect,) consists in 100 parts of 3.6 syrup, 1.9 bitartrate of potassa, tartrate and some phosphate of lime, 3.0 bitter principle, 1.6 green wax, 3.7 gum, 7.0 coloring matter, like extract, 44.6 lichen starch, 36.2 starch-like matter; but carrageen is without bitter principle, contains nothing but soluble matter, and the quantity of nutritious jelly produced by a small portion of it gives it the most indisputable preference. It was first introduced by Dr. Reece, who considered it a most important article of food for invalids, and Doctors Sulby, O'Reilly, and Sir Henry Hallford, speak of the carrageen as the most nutritious article of food for delicate and weakly children. In this respect it is certainly superior to arrow root, sago, &c., being more highly nutritious, easy of digestion, and pleasing to the taste.

Prepared with warm milk and sweetened, it is most particularly recommended as a breakfast for consumptive patients.

Decoction of moss, made by boiling half an ounce clear moss in a pint and a half of water or milk until reduced to a pint, is recommended as food for children affected with scrofulous or rickety diseases, for such as are delicate and weakly, and for infants.

There are some printed directions for the manner of using the carrageen moss for medicinal and culinary purposes, accompanying some imported from England, from which I shall make here an extract.

Directions for using the Moss medicinally.—Steep a quarter of an ounce of moss in cold water for a few minutes—then withdraw it, (shaking the water out of each sprig,) and boil it in a quart of new or unskimmed milk, until it attains the consistence of warm jelly—strain and sweeten it to the taste with white sugar or honey, or, if convenient, with candied Eryngo root; should milk disagree with the stomach, the same portion of water may be used instead. The decoction made with milk is recommended for breakfast for consumptive patients; and with water will be found a most agreeable kind of nourishment, taken at intervals during the day, the flavor being varied with lemon-juice or peel, Seville orange juice, cinnamon, or wine of any sort most congenial to the taste.

The decoction in water is also taken for the relief of cough at any time in the course of the

day, when it is troublesome, and it is for this purpose simply sweetened with honey.

In dysentery, the decoction, either in milk or water, may be administered with equal advantage, and in addition to the sweetening matter, if a tea-spoonful of the tincture of rhathany be mixed with each cupful of it, tone will thereby be given to the intestines, at the same time that nourishment will be conveyed to the system, and irritation prevented—a large tea-cupful of the decoction may be taken three or four times a day.

As a pleasant strengthening food, boiled with milk and strained, with the addition of a little sugar, it is unrivalled for infants. Persons take it in this way for breakfast or supper, with the happiest effect, who are sustaining an attack of the cholera.

Culinary Directions.—To make *Blanche-Mange*: take half an ounce of moss, and having cleansed it by the process above described, boil it in a pint and half new milk, until it is reduced to a proper thickness to retain its shape; to be sweetened and flavored with lemon, white wine, or any thing to suit the palate.

To make *Orange, Lemon, or Savory Jellies*: use a similar process, substituting water for milk—add lemon, orange, herbs, &c. according to taste.

To make *White Soup*: dissolve in water, afterwards add the usual ingredients.

It only remains to state, that the *Carrageen*, or *Irish Moss*, as a domestic article, is peculiarly interesting; it is the best thickener of milk, broths, &c., makes excellent jellies, and for *Blanche-Mange* is equal to most expensive ingredients, whilst the cost is comparatively nothing; it may be used instead of isinglass, jellies, &c.

13. *Oil of Copaiva as a test for the purity of the sulphuric ether.*—If ether is not fully deprived of water and alcohol, it forms when united with oil of copaiva an emulsion without dissolving it completely, whereas it is soluble when pure, in every proportion.

14. *Discharge of the stain of indelible ink, by corrosive sublimate.*—Dr. John Dickson, of South Carolina, in a letter to the editor, dated October 24, 1833, states that Mrs. Dickson had accidentally observed the discharge by corrosive sublimate from a handkerchief of the color produced by the nitrate of silver, and it was soon found that the same effect was produced upon linen, cotton, and the human skin. On the cloth* the stain partially re-appeared after washing, but on the skin it did not return.

The following circumstances led to Mrs. Dickson's observation: a weak solution of nitrate of silver, (warmly recommended in Eberle's Practice,) was used as a lotion in treating some cases of erysipelas; its power of producing a dark tint was well known to Dr. D., but as no caution is given in the above work, it was presumed that no such consequence would follow from using so weak a solution: but Dr. D. had the mortification to find the effect produced, and a solution of corrosive sublimate was then successfully applied to remove the stain produced by nitrate of silver. The following suggestions are made by Dr. D.:

1. Not to use the nitrate on the face at all, especially in the case of females.
2. To take care that the solution reach only the portions of the surface that are in a state of erysipelatous inflammation, since there is reason to believe that it is less likely to stain the inflamed part, and, at any rate, vesication, desquamation, or absorption will soon remove the skin and stain together in the diseased surface, while this will not happen so soon in the healthy portion. Of course this is not of so much importance in parts habitually covered by the dress.
3. To have the parts to which the nitrate is applied protected from the light during the use of it.
4. To wash away the solution before it dries

* It is not specified what cloth is intended, but it is presumed that it is the fibre of the linen and cotton.

in the least from the fingers, &c. dipped in it in making the application. This may be done in common clean water, and if not effectually done in that, it may be certainly done in a weak solution of corrosive sublimate, as appears from our experience.

CRYSTALLINE LENSES.—Sir David Brewster, a very distinguished writer on the science of optics, is desirous of procuring crystalline lenses, or, in other words, magnifying glasses of the eyes of American animals. Put the entire eye into a well corked and sealed bottle of spirit, or take the lens from the globe, and throw it for a few minutes only into boiling water. When taken out, dry it and wrap it in paper, writing upon it the name of the animal to which it belonged.—[Scientific Tracts.]

FROGS.—On exposing frogs to the temperature of 0° cent. 32° Fahr., in humid air, in order to suppress perspiration by evaporation, they lost by transudation, in different experiments, the thirtieth part of their weight. Transudation is more abundant in these reptiles than in man, though the latter may be placed in circumstances much more favorable.—[Ibid.]

ANIMAL POWER.—Dupin states, that the animal power in Great Britain is eleven times as great as the manual power, while in France it is only four times as great.

The following is the number of horses for every 1000 inhabitants in the countries mentioned. Hanover, 193; Sweden, 145; Canton de Vaud, in Switzerland, 140; Great Britain, 100; Prussia, six Provinces, 95; France, 79.—[Quar. Jour. of Agr.]

METHOD OF BUILDING CHIMNEYS THAT WILL NOT SMOKE.—Contract the space immediately over the fire, so you may be sure of the air being well heated there; this will ensure a current upwards. All chimneys should be carefully built, and every joint well filled with mortar, so as prevent communication in case of fire.—[Dr. Thomas Cooper.]

FEATHER BEDS.—The want of feathers is altogether artificial, arising from a disregard of the physical and moral well-being of infants and children; and he who has the good fortune never to have been accustomed to a feather bed, will never in health need or desire one, nor in sickness, except in cases of great morbid irritation, or excessive sensibility, or some disease in which the pressure of a firm or elastic substance might occasion pain. But when a rational regard to the preservation of health shall pervade the community, feathers will no more be used without necessity, or medical advice, than ardent spirits will be swallowed without the same necessity or advice. The physician has frequent occasion to see persons who are heated, sweated, and enfeebled, by sleeping on feathers, as if from a fit of sickness, enervated, dispirited, relaxed, and miserable.—[Med. Intel.]

CURE FOR WEAK EYES.—Take a small lump of white copperas, say about the size of a pea; put it in a small phial, holding about two ounces of water: carry this in the pocket, and occasionally taking out the cork, turn the phial upon the finger's end, and thus bathe the eyes. This will positively effect a real cure in a short time.

POTATO STARCH.—Let the potato be taken and grated down to a pulp, and the pulp placed upon a fine sieve, and water made to pass through it; the water will be found to have carried off with it an infinite number of particles, which it will afterwards deposit in the form of white powder, separable by decantation, which powder is starch, possessing all the essential properties of wheaten starch.—[London.]

IMPORTANT INVENTION.—We have just seen the model of a vessel, constructed on the principle of a steam packet, propelled by paddles, but, from its peculiar mechanism, it completely supersedes the necessity of steam. The given power is communicated by four revolving sails, (gigot shape,) placed over the centre of the boat, which are acted upon by the wind from any point whatever, without in the least interrupting the progress of the vessel. The serious consequences often arising from the effects of sudden squalls are hereby completely obviated, from the accelerated horizontal action which the sails acquired, one counteracting the weight of the other in a direct ratio. This invention will also be of infinite utility in the construction of mills used in every description of manufacture. In fact, we deem it one of the most important discoveries of modern times. The inventor, Mr. John Willis, of whose talent and genius we have often spoken, intends taking out a patent for the discovery. —[Wexford Independent.]

TELEGRAPH SCIENCE.—The increasing utility of this very interesting science has become a subject of considerable notoriety. From an authenticated statement of the annual reports of the establishment at the observatory on Central wharf, in this city, the following results are communicated for the information of its numerous patrons.

Vessels telegraphed from 1824 to 1825	799
" " 1825 to 1826	897
" " 1826 to 1827	923
" " 1827 to 1828	1010
" " 1828 to 1829	1309
" " 1829 to 1830	1435
" " 1830 to 1831	1583
" " 1831 to 1832	1809
" " 1832 to 1833	1856
" " 1833 to 1834	1922

Total number announced by telegraph, 13,543
We understand that, during the above period, fifteen hundred sail of vessels, including the government vessels of war and the revenue cutters, have adopted the use of the telegraph flags. —[Scientific Tracts.]

LOVE OF SCIENCE.—A distinguished English missionary, located in India, has such an ardent love of botany, (though it would seem from the volumes of learned translations he has made, that he had no time for any other employment,) that his garden is enriched with every plant and tree that can be made to grow in India. It is still more remarkable, that he can readily call each one by its appropriate technical name. His house is fitted up with shelves, on which are plants, minerals, shells, and groups of cages filled with living birds. —[Ibid.]

RUINS OF ARAXES.—It was in this very ancient city, then in the meridian of its architectural splendor, and the pride of Persia, that Alexander and his Greeks sung, and danced, and revelled. At the present moment, the massive ruins only faintly express its former grandeur and magnificence. Martyn, the missionary, the last visitor whose remarks we have consulted, says, "I saw no appearance of grand design any where. The chapters of the columns were almost as long as the shafts, though they are not so represented in Niebuhr's plates; and the mean little passages into the square court or room, or whatever else it was, make it very evident that the taste of the Orientals was the same 3000 years ago that it is now." —[Ibid.]

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LITERARY NOTICES.

DEFENCE OF THE REVOLUTIONARY HISTORY OF NORTH CAROLINA FROM THE ASPERSIONS OF MR. JEFFERSON: by Jo. SEAWELL JONES, of Shocco, N. C., 1 vol. Boston, CHAS. BOWEN; Raleigh, N. C., TURNER & HUGHES; for sale in New York by D. APPLETON & Co.—Though unfortunate for the fame of Mr. Jefferson, it is fortunate for the cause of Truth, that the papers of that "Patriarch of the Democracy"—as he is sometimes styled—fell into the hands of a descendant who felt himself bound or impelled to publish them *in extenso*, without culling and without any attempt to reconcile, what indeed is utterly irreconcilable, their discrepancies and contradictions.

The signal vindication by Major H. Lee, of his father's name from the "aspersions" of Mr. Jefferson, and his successful carrying of the war into the enemy's country, was the first in the series of marking publications called forth by the four volumes of the writings of Thomas Jefferson—others followed; and we have now before us another able refutation of one of Mr. J.'s sweeping denunciations of rival contemporary politicians.

In the year 1819, John Adams enclosed to Mr. Jefferson an extract from a Salem paper, purporting to give, as then recently discovered in North Carolina, the copy of a "Declaration of Independence" adopted by Mecklenburg county, in that State, on the 20th May, 1775—more than a year before that adopted by Congress—and called his attention to it as a most able paper, expressing his surprise and regret, at the same time, that it had not been known to him before.

In reply, Mr. Jefferson treats this paper, which Mr. Adams evidently deemed genuine, as "spurious"—assimilates it to some absurd quiz about "a volcano" said to have broken out in North Carolina; and, moreover, speaks disparagingly of Mr. Hooper, and other Delegates from North Carolina, in the Continental Congress, whose exertions are commended in the said Declaration. Upon this hint speaks Mr. Jones—a worthy son of so honest and patriotic a State as North Carolina—and we may say with entire truth, that he does most successfully illustrate the unquestionable claims of his native State, of many of its individual sons, and of Mr. Hooper in particular—to the gratitude and admiration of the Union for their untiring services at every period of the Revolutionary war, to the common cause.

As to the authenticity of the Mecklenburg Declaration, it is put beyond all doubt, by the evidence adduced. We have not room for even a summary of this evidence; and must, therefore, content ourselves with repeating that it seems to us *conclusive*, and with referring those who desire to see for themselves, as indeed we would all who interest themselves in authentic American History, to the volume of Mr. Jones.

One single link in the chain of proof we will give—and then publish the declaration itself.—Gov. Martin, when flying from North Carolina, and while on board ship in Cape Fear river, issued, on 8th August, 1775, a royal proclamation denouncing the revolutionary proceedings in North Carolina, from which the following is an extract.

"And whereas I have also seen a most infamous publication in the Cape Fear Mercury, importing to be resolves of a set of people styling themselves a Committee for the County of Mecklenburg; most traitorously declaring the entire dissolution of the laws, government, and constitution of this country, and setting up a system of rule and regulation repugnant to the laws, and subversive of His Majesty's Government."

This distinct reference should of itself be deemed

ed decisive—but there are many other proofs of the authenticity of the following—

THE MECKLENBURG DECLARATION OF INDEPENDENCE.—(20th of May, 1775).—"That whosoever directly or indirectly abets, or in any way, form, or manner, countenances the unchartered and dangerous invasion of our rights, as claimed by great Britain, is an enemy to this country, to America, and to the inherent and unalienable rights of man."

"That we, the citizens of Mecklenburg County, do hereby dissolve the political bands, which have connected us with the Mother Country, and hereby absolve ourselves from all allegiance to the British Crown, and abjure all political connection, contract, or association with that nation; who have wantonly trampled on our rights and liberties; and inhumanly shed the blood of American patriots at Lexington."

"That we do hereby declare ourselves a free and independent people;—are, and of right ought to be, a sovereign and self-governing association, under the control of no power, other than that of our God, and the general government of the Congress;—to the maintenance of which independence, we solemnly pledge to each other, our mutual co-operation, our lives, our fortunes, and our most sacred honor."

"That as we acknowledge the existence and control of no law nor legal officer, civil or military, within this county, we do hereby ordain and adopt as a rule of life, all, each, and every of our former laws; wherein, nevertheless, the Crown of Great Britain never can be considered as holding rights, privileges, immunities, or authority therein."

"That it is further decreed, that all, each, and every military officer in this county, is hereby reinstated in his former command and authority, he acting conformably to these regulations. And that every member present of this delegation shall henceforth be a civil officer, viz. a Justice of the Peace, in the character of a Committee-man, to issue process, hear, and determine all matters of controversy, according to said adopted laws; and to preserve peace, union, and harmony in said county; and to use every exertion to spread the love of country and fire of freedom throughout America, until a more general and organized government be established in this province."

"ABRAHAM ALEXANDER, Chairman."

"JOHN MCKNITT ALEXANDER, Secretary."

"Ephraim Brevard	William Graham
Hezekiah J. Balch	John Queary
John Phifer	Hezekiah Alexander
James Harris	Adam Alexander
William Kennon	Charles Alexander
John Ford	Zaccheus Wilson, sen.
Richard Barry	Waightstill Avery
Henry Downe	Benjamin Patton
Ezra Alexander	Matthew McClure
Neil Morrison	Robert Irwin
John Flenniken	David Reese
John Davidson	Richard Harris, sen.

Thomas Polk."

No one can read this declaration without admiration for the boldness, which at that early period—when even the most zealous opponents of British oppression, looked only to measures that might induce England to do justice to her colonies, and dreamed not of absolute Independence—prompted these resolute North Carolinians, to throw away the scabbard, and go at once for National Independence.

Neither can any one read it, with a recollection of the language of that Declaration which more than a year afterwards was penned by Mr. Jefferson—without a strong conviction that he had seen this document, that it had furnished him with some of the strongest ideas, and happiest expressions of his draft—and that it was, therefore, a calculation of selfish policy, and in order to conceal unacknowledged obligations that in his letter to Mr. Adams, he treated the whole thing as a quiz.

The reason why this Mecklenburg Declaration does not appear among the archives of Congress, is thus simply explained in a MS. Journal of the Rev. Henry Hunter—who, at the period in question, was, as he records himself, twenty years old—and a spectator of the proceedings, on the day the Mecklenburg Declaration was adopted.

"A copy," says Mr. H.'s Journal, "of these transactions was drawn off and given in charge to

Capt. Jack, then of Charlotte, that he should present them to Congress, then in session, in Philadelphia. * * * * * On the return of Capt. Jack, he reported that Congress individually, manifested their entire approbation of the conduct of the Mecklenburg Citizens, but deemed it premature to lay them officially before the House."

We must here close our notice of this book, which, though certainly inartificial in its arrangements and topics, in which respects it might be improved, is very interesting to all who desire to see the truth told in American history.

JOURNAL OF A RESIDENCE IN CHINA, AND THE NEIGHBORING COUNTRIES, FROM 1829 TO 1833. By DAVID ABEEL, a Minister of the Reformed Dutch Church in North America. 1 vol. New York: LEAVITT, LORD & Co.—Though wanting in the interest and personal adventure which render *Gutzlaff's* volume so attractive, this record of scenes passed somewhat amid the same peoples, and with the same pious motives is not without its merits. Much of it is given from the personal observation of the writer: other portions are compiled from authentic works and accurate information.

We had marked several extracts, but we find our limits will not admit them. The (to us) new and curious fact is stated, in speaking of the different creeds of China, that the *Buddhists*, whose doctrines came from India, made themselves the prevailing sect by the circulation of tracts. It is thus that both Truth and Error adopt the same means of propagation.

THE WORDS OF A BELIEVER: by the Abbé de la Mennais. Translated by the Rev. Dr. HAWKS. New York: CHARLES DE BEIR.—We have had a glimpse in advance, of this publication, about to appear, and give our readers a foretaste of it, which will satisfy them, that if eloquent in the original, it is not the less so in the translation.

The Abbé de la Mennais is a Catholic clergyman, politically a devoted adherent of the Bourbons at the restoration, but now an anti-Philippine, and not far from a Republican. The following is one of his visions:

HEARKEN! Tell me whence cometh this confused, indistinct, and strange noise, which is heard on every side?

Place thy hand upon the earth, and tell me why she trembleth.

A mysterious something is abroad in the world. It is a work of God.

Is not every one in expectation? Is there a heart which does not throb?

Son of man! go up to the high places; say; what seest thou?

I see in the horizon a dark cloud, fringed with a glare, like the reflection of a conflagration.

Son of man! what seest thou now?

I see the sea lifting up her waves;—I see the mountain tops tremble.

I see the rivers change their courses; I see the hills totter;—they fall, and entomb the valleys.

All trembles, all is in motion, all takes a new aspect.

Son of man! what seest thou now?

I see clouds of dust in the distance: they move to and fro; they strike—they mingle—they unite.—They pass over the cities:—they are passed:—nothing remains but the naked plain.

I see the people rise in tumult; I see kings grow pale beneath their diadems. War is among them, war even unto death.

I see one throne; I see two thrones broken in pieces, the people scatter the fragments over the earth.

I see a people fighting, as the archangel Michael fought with Satan. Their blows are terrible. But the people are naked, while their enemy is clad in thick armor.

Oh God! he falls, he is smitten to death. No:—he is only wounded. Mary, the Virgin Mother, wraps him in her mantle; she smiles on him, and withdraws him for a time from the battle.

I see another people struggle without ceasing; from time to time they gather new strength in the struggle. This people have the mark of Christ upon the heart.

I see a third people, upon whom six kings have

placed their feet: and at each movement of this people, six daggers are buried in their throat.

I see upon a vast edifice, high in the heavens, a cross scarcely distinguishable, for it is shrouded with a black veil.

Son of man! what seest thou now?

I see the East in trouble. He beholds his ancient palaces crumbling into ruins, his venerable temples falling into dust, and he raises his eyes as it were in search of other grandeur and another God.

I see, towards the West; a woman with a lofty look and serene countenance; she traces with a firm hand a light furrow, and wherever her ploughshare passes, I see generations of men arise, who invoke her in their prayers, and bless her in their hymns.*

I see, in the North, men who have no vital warmth remaining, save in the head; it makes them giddy; but Christ touches them with the cross, and the heart begins again to beat.

I see, at the South, a race of men oppressed with some unknown curse; a heavy yoke bows them down, they walk stooping, but Christ touches them with his cross and they stand upright.

Son of man! what seest thou now?

He answers not; let us cry again.

Son of man! what seest thou?

I see Satan fleeing, and Christ, surrounded by his angels, coming to reign.

THE HUNCHBACK OF NOTRE DAME; by VICTOR HUGO. Translated by FREDERIC SHOBERL. 2 vols. CAREY LEA & BLANCHARD.—No one can deny genius or originality to this historical romance; and yet we think it will not generally please. It is too antiquarian for ordinary taste. The intimate acquaintance with, and elaborate descriptions of, architectural details for instance, in regard to the old Church of Notre Dame, occupy a space that will seem very barren to the great mass of American readers. But then what a bright and beautiful and singular creation is *la Esmeralda* the gypsy girl; and how unlike common character, yet true to nature, is the Archdeacon *Claude Frolo*; and what a monster, almost Shakespearean, is *Quasimodo* the bell-ringer; and withal how vividly are the feelings, uages, and reality of the times of Louis XI. presented to the eye? It is decidedly a work of genius.

THE RETICULE, OR MINIATURE LEXICON of the English Language; by Lyman Cobb. Harpers.—A dictionary for occasional reference is the only work in which a small type is to be tolerated. It is not a book to pave over, and therefore the eyes can be but little affected by its use, and the smaller and more portable it is in size the more convenient is its use for those who have frequent occasion for it. The publication before us, though it contains upwards of eight hundred pages, can be put in one's waistcoat pocket, or stowed away in the corner of a lady's workbox, like Gulliver in the reticule of Glumdalclitch. It is stereotyped in the neatest manner; and contains a collection of verbal distinctions, with occasional illustrations, by Mr. Cobb, which alone would be worth the price demanded for the whole compilation.

HISTORY OF THE RISE AND PROGRESS OF THE ARTS OF DESIGN IN THE UNITED STATES: by WM. DUNLAP, Vice President of the National Academy, author of the History of the American Theatre, &c. &c. 2 vols., 8vo.—The reputation of Mr. Dunlap as an artist, and his popularity as the author of one of the most entertaining works that ever came from the American press—(the intermingling of narrative and fact, the biographical sketches, criticism, literary and dramatic anecdote, and amusing gossip of all kinds, give this character to the History of the American Theatre)—fit him above all men living for the task he has here undertaken. In fact, the intercourse alone of the venerable author and artist with several generations of his professional brethren, at once indicates him as the man to ex-

* An allusion to the United States!

ecute a work of the peculiarly characteristic nature of that before us.

The pressure of matter of more general interest perhaps than the Review, prevents us from entering into a fair examination of these volumes to-day, but we shall recur to them more than once hereafter. In the meantime we may observe, that the book being of a permanent character, and one that every American gentleman should have in his library, is handsomely printed with large type on royal octavo pages, so as to make in appearance, as well as actual interest, just the kind of work that one likes to open at any time for passing entertainment, or to refer to occasionally, as authority upon valuable facts connected with the progress of the arts of design in modern times.

THE KNICKERBOCKER, Vol. 4, No. 6. THE AMERICAN MONTHLY MAGAZINE, Vol. IV, No. 3.

We are happy to see these rival Magazines, which were originally started nearly at the same time, still keeping their way—in spite of all prognostics that one of them must go down—and competing honorably for the favor of the public, which we trust is large enough to embrace them both. There should certainly, in a community so great as this, be patronage enough for two such periodicals; and competition in this species of literature is an effectual spur to improvement as it is in every thing else. The number of the Knickerbocker at present before us, exhibits a great deal of activity and taste on the part of the Editors in getting up a pleasing melange for their readers; but the American Monthly, without presenting such a readable variety, contains one or two articles of a higher character than any in the Knickerbocker. "The Fall of Antony," for instance, the last paper in the latter, is by a master hand. The editors of the Knickerbocker, however, who have received so much praise from the daily press for their rapid improvement of that periodical, seem determined to merit it, so far as securing the contributions of the most popular writers can enhance the value of their Magazine. Among those who have contributed to the present number, we observe the names of Miss Leslie and Mrs. Embury, the old favorite Percival and the veteran Flint. The pressure of foreign news will not leave us room to quote, though we had already marked several passages for extract from the American Monthly, which was first received: among these, "Sight seeing in Europe" is an article which contains some practical suggestions, that might be framed and hung up in the cabins of our foreign packets for the edification of the numbers that weekly throng them, bent upon making "the grand tour." We shall find room hereafter for the animated and classic sketch of THE FALL OF ANTONY.

[COMMUNICATED.] The Committee appointed by the Lyceum of Natural History to obtain subscriptions to its stock have already disposed of eighty-three shares, and hope to dispose of more. If gentlemen who are inclined to promote the cause of science and increase the reputation of the city, will attentively peruse the advertisement of the Lyceum, they will, it is confidently believed and hoped, cheerfully unite in forwarding the objects of this excellent institution. It is really a disgrace to New York, that the Lyceum has no local habitation of its own. Philadelphia has her academy of Natural Sciences, the object of which is precisely similar, and for which a large and ornamental building has been erected entirely by private subscription. Cannot this city do as much? It is hoped that if the members and friends of the Lyceum will exert themselves, the public spirit of the citizens will enable them to erect a suitable building, in which public lectures may be delivered, and their valuable collection be duly arranged, and that they may recommence the publication of their annuals, which they have been obliged to suspend for want of funds—a circumstance the more to be regretted, since they have on hand and are constantly receiving communications containing much useful and interesting intelligence.

OUR AFFAIRS WITH FRANCE.—A correspondent asks with seeming anxiety, whether he is to understand the American as "enlisted for the war," and as approving the request of the President, that the discretion of making reprisals, in certain contingencies, be vested by Congress in him. We answer to both questions unhesitatingly, no. We are against war if it can be avoided with honor—and we are against confiding any discretionary power whatever to the President.

Our position on this question is this: We hold that right is on our side throughout—that we have been trifled with by France—that it was the duty of the President to express strongly, as the Message does, the sense entertained by the country, of the backwardness of France in fulfilling the treaty—and to indicate a decided purpose not to permit the matter to linger any longer in doubt.

As to the suggestion of reprisals, we think, and so pronounced it in our first remarks on the message, untimely. Further consideration induces us to consider it as *inexpedient* moreover, as a remedy, even in case of further delay; countervailing duties, commercial restrictions or eventual non-intercourse, may one or all be deemed quite as operative on France, and less injurious to this country, than reprisals which could not fail to be mutual.

[From the *Courrier des Etats Unis* of Saturday.]

It is our custom to accompany with some remarks the long translation of the Annual Message of the President. Hitherto this has been to us an agreeable and easy duty, for these addresses always presented a true and brilliant picture of the prosperity of a nation which we delight to look upon as a second country. Now, however, this is a disagreeable task; and we would gladly be permitted to be silent on the delicate question raised by that part of the Message which relates to France: but under circumstances where the interests of our fellow-countrymen are put in jeopardy, when uneasiness prevails in all the French counting houses, when every one is preparing either to stop or check his importations, to countermand his orders at the South, and to withdraw credits established, we may not give way before the difficulties of the undertaking, or fear to utter some words of opposition to declarations which seem to obtain among Americans the assent of all parties.

We say, that the acts of the Executive seem to meet with general approval; in fact all the opposition papers are vying in praises with those which habitually defend all acts of the Government. Already France and the Cabinet of the Tuilleries are objects of attack: but to those who have followed attentively the course of the two parties in this country, to those who do not judge altogether by appearances, it is obvious that reasons of policy as connected with affairs at home, rather than motives of general interest, or of conviction, will account for the language of menace on the one side, and of full approval on the other. The words national honor,—very inappropriately as it seems to us,—have been pronounced; and after that, each party has sought to avoid the possibility of being found in opposition to it.

Yet it may well be asked, how the national honor can be compromised on a question of money—of indemnity—when the Government, acknowledging itself the debtor, evinces frankly and fully its disposition to pay. Certainly we are little in the habit of defending the acts of Louis Philip's Government, but in this unpleasant affair, there are two points which cannot be denied, without the most complete ignorance of the facts and position of the whole matter: and these are, first, that the Cabinet of the Tuilleries has always entertained the most positive purpose and the liveliest desire of terminating this difference to the satisfaction of the United States; and second, that the Chamber of Deputies only refused the appropriations because they considered the amount exaggerated. We repeat, that it implies entire ignorance of the general affairs of France, of the efforts of those who govern, to get out of all difficulties as fast as they can, and of their prodigality of the public monies, to impute to them in this matter, an unfavorable disposition, which cannot be in any way accounted for. We admit, that inconceivable indiscretions have been committed on both sides in the drawing up of this treaty, and in the exchange of ratifications—that the French Cabinet is chargeable with the greatest want of thought and

foresight, in delivering to the American Minister an Act of indemnity which had no value, since it belongs to the Chambers alone to dispose of the public funds. But is the French constitution so little known at Washington, that it should not be understood there, that another sanction besides that of Louis Philippe was necessary to the validity of a treaty? Between States, as between individuals, in all transactions whether commercial or diplomatic, is it not the first step to ascertain whether he who proposes to sign, is authorized to sign? Suppose the President of the United States, of his own will and without authority, should assume to surrender Louisiana to France by treaty, and that a French Commissioner should present himself at New Orleans to take possession of that State, would the Governor think himself obliged to withdraw, or would the American nation look upon such a treaty as valid, because it had been made by the Executive? Or, without going further, what if the American Congress had not ratified the treaty signed at Paris, would it have been valid in the eyes of the American people? If this ratification was essential, can it be contended that that of the Chambers was not? Moreover, the correspondence of the American minister in Paris related too much in detail the apprehensions of Gen. Sebastiani about the disposition of the Chambers to adhere to the treaty, to render the supposition possible that the Cabinet at Washington seriously believed in the validity of the treaty without that indispensable formality. Unfortunately, too, some of these letters imprudently published, evinced too plainly the joy of unlooked for success, and which had been little anticipated. Right or wrong, the Chamber of Deputies, while admitting the justice of some indemnity, deemed 25 millions too much. They must have been very thoroughly persuaded of this; and the reasonings of M. Bignon, which produced the negative vote, must have been very conclusive, to have induced the Chamber so far to depart from its habit as to refuse any thing to the Ministry. If they were in error, pains should have been taken to enlighten them, for assuredly neither they nor the Government lacked good will. Had this been done?

Without any doubt the indemnity would finally have been voted—nothing was wanting but an opportune moment for pressing it, and that would have occurred. But now we venture not to predict the effect which the hostile declarations of the President will produce on the representatives of the French nation nor on the government. The appearance of menace to those who suppose themselves acting strictly within the line of right, is of too trying a nature for the language used at Washington to be without a disastrous influence upon the future course of this affair. A week ago and we should have said, without any fear of being mistaken, the indemnity will be paid; but the Message puts all again in question, it places the French government in a false position, paralyzes its good intentions, exposes it to serious embarrassment, or to the charge so often heretofore made against it of feebleness, it irritates the Chamber which only desired to be enlightened, and which, on its part too, may deem the honor of the nation touched by language usually reserved for the last extremity.

We can easily comprehend, that the President should ask of Congress power to act as his Cabinet might advise, in case the treaty should not be ratified at the approaching session of the Chambers; but the specification of reprisals, the threat of seizing French property, presents language so extraordinary in such circumstances, as to be, we hesitate not to say, a cause of astonishment to everybody, as it undoubtedly is of great uneasiness, to all the French commercial establishments in this country. It is not to be supposed that France will permit the property of her citizens to be seized with impunity, or that clouds of privateers, issuing not only from all the ports of France, but from those of all the world, would not instantly inflict severe reprisals upon the numberless American vessels which cover the seas of Europe. This, then is war—war, with all its evils and expenses, and between the two countries most interested in solid and durable friendship. The bare idea appears to be so much at variance with good sense, that we look to such a result as impossible. States only resort to such extremities, from motives far otherwise serious. It would not be among the least singularities of the times in which we live, to see the two most united nations on the globe making war upon each other and spending each a hundred millions, for a moderate claim, which it is desired to dispose of justly; while for four years past, Europe in arms, agitated by revolutions, and with interests conflicting with each other at every point,

has not decided on such a resort. It would be a fine affair, for the other power.

CONGRESS.—Nothing of much importance was done in the Senate on Monday. Mr. Webster gave notice of his intention to introduce a Bill compensating American citizens for French Spoiliations prior to 1800.

Mr. SOUTHARD moved that on Wednesday next the Senate would proceed to the appointment of the Standing Committees.

Mr. POINDEXTER suggested the postponement of the day till Monday next, as the Senate was not very full, and as it was desirable to have a full attendance of the members.

Mr. SOUTHARD had no objection, with a view to consider the subject, that the motion be laid on the table, and moved to that effect; which was agreed to.

The Senate then adjourned.

HOUSE OF REPRESENTATIVES.

The following Standing Committees were appointed by the Speaker, pursuant to the order of the House:—

Elections.—Messrs. Claiborne, Griffin, Hawkins, Vanderpool, Hannegan, Hard, Burns, Bouldin, Kilgore.

Ways and Means.—Messrs. Polk, Wilde, Cambreleng, McKim, Binney, Loyall, McKinley, Hubbard, Corwin.

Claims.—Messrs. Whittlessey of Ohio, Barbour, McIntire, Gholson, Forester, Stoddert, Banks, Fulton, Miner.

Commerce.—Messrs. Sutherland, Harper of New Hampshire, Pinckney, Heath, Pearce of Rhode Island, Gillet, Phillips, Johnson of Louisiana, Morgan.

Public Lands.—Messrs. Clay, Boon, Slade, Ashley, Inge, Williams, Lincoln, Casey, Clayton.

Post Office and Post Roads.—Messrs. Connor, Kavanagh, Thomas of Louisiana, Briggs, Murphy, Lane, Laporte, Hall of Maine, Schley.

District of Columbia.—Messrs. Chinn, W. B. Shepard, McKennan, Allen of Virginia, Hiestler, Fillmore, King, Vanderpool, Steele.

Judiciary.—Messrs. Foster, Gordon, Beardsley, Thomas of Maryland, Hardin, Parks, Pierce of New Hampshire, Robertson, Hamer.

Revolutionary Claims.—Messrs. Muhlenberg, Crane, Bates, Standifer, Marshal, Young, Baylies, Turrill, Kinnard.

Public Expenditures.—Messrs. Davenport, Lyon, Page, Clarke of Pennsylvania, Tweedy, McLane, Jackson of Massachusetts, Hazeltine, Ferris.

Private Land Claims.—Messrs. Johnson of Tennessee, Mardia, Carr, Galbraith, Mann of New York, Bull, Chambers, Davis of Kentucky, May.

Manufactures.—Messrs. Adams of Massachusetts, Denny, Dickerson of New Jersey, Martindale, McComas, Osgood, Clowney, Cramer, Jackson of Connecticut.

Agriculture.—Messrs. Bockee, Taylor of Virginia, Hathaway, Barnitz, Bean, Dunlap, Clowney, Turner, Beatty.

Indian Affairs.—Messrs. Gilmer, McCarty, Everett of Vermont, Graham, Allen of Ohio, Dickinson, of Tennessee, Howell, Love of Kentucky, Grennell.

Military Affairs.—Messrs. Johnson of Kentucky, Vance, Speight, Ward, Thompson, Coffee, Bunch, McKay, Anthony.

Naval Affairs.—Messrs. White of New York, Milligan, Watmough, Lansing, Reed, Grayson, Parker, Smith, Wise.

Foreign Affairs.—Messrs. Wayne, Everett of Massachusetts, Hall of North Carolina, Coulter, Jarvis, Pierson, Patton, Letcher, Peyton.

Territories.—Messrs. Allan of Kentucky, Potte, Johnson of New York, Wilson, Jones of Ohio, Ewing, Gamble, Cage, Trumbull.

Revolutionary Pensions.—Messrs. Wardwell, Barringer, Tompkins, Moore of Virginia, Lea of Tennessee, W. K. Fuller, Fowler, Bell, Lay.

Invalid Pensions.—Messrs. Miller, Beale, Adams of New York, Schenck, Chilton, Chaney, Mitchell of Ohio, Brown of New York, Jones.

Roads and Canals.—Messrs. Mercer, Blair, Winton, Stewart, Rencher, Johnson of Maryland, Lucas, Pope, Reynolds.

Revised and Unfinished Business.—Messrs. Dickson, Harrison, McVean, Shinn, Taylor of New York.

Accounts.—Messrs. Mann of Pennsylvania, Lee of New Jersey, Mitchell of New York, Crockett, Osgood.

The following Standing Committees of the House,

appointed at the last session, remain through the Congress.

On Expenditures in Department of State.—Messrs. A. H. Shepperd, Day, Beaumont, Bodle, Patterson.

On Expenditures in Department of the Treasury.—Messrs. Allen of Vermont, P. C. Fuller, Harper of Pa., Spangler, Clarke of N. Y.

On Expenditures in Department of War.—Messrs. Whittlesey of N. York, Deberry, Chambers, Webster, Halsey.

On Expenditures in Department of Navy.—Messrs. Hall of Maine, Huntington of N. Y., Ramsay, Sloane, Van Houten.

On Expenditures in Department of Post Office.—Messrs. Hawes, Fulton, Burns, Wagener, Lay.

On Expenditures on Public Buildings.—Messrs. Whallon, Darlington, Brown, Henderson, Hard.

The resolution of Mr. Wardwell for inquiry respecting the ship house and other matters pertaining thereto at Navy Point, Lake Ontario was adopted.

On motion of Mr. HUBBARD,

Resolved, That the Committee on Revolutionary Pensions be instructed to inquire into the expediency of providing by law for the publication semi-annually, in the newspapers printed in the respective States, which from their location may be best calculated to give information, and which shall be designated for that purpose by the Secretary of War, for the time being, the names and the residence of all those persons represented to be living in said States, who are on the rolls of the invalid and revolutionary pensioners and annuities, under the several acts of Congress.

The rest of the day was spent in discussing the resolution of Mr. Hawes, respecting the West Point Academy.

[FOR THE NEW YORK AMERICAN.]

Strong Beer.

The friends of Temperance in England are sending us back floods of temperance Documents. Some of them are deeply interesting, and calculated rapidly to disabuse the public mind with regard to the nutritive qualities of their national drink, Beer. A document before us proves, that so far from this liquor being a nutritious drink, a gallon of it does not contain more than a simple penny worth of nutriment. The only articles besides water, which are used in the composition of unadulterated beer, are Malt and Hops. The hop though possessed of medical qualities, is not considered nutritious any more than opium. The only nutritious article then used in making the ale or beer, is malt.—Malt is merely barley dried upon the malt kiln.—The nutriment then in ale, as Dr. Franklin has said, must be proportional to the solid parts of the barley which remain in it when it is drunk. If we can ascertain how much barley is used in the first instance for the manufacture of a gallon of ale, and then how much of its nutritious properties is lost in malting, brewing, and fermentation, we shall come to a certain result. Calculating barley at 3s. 4d. st'g per bushel, and supposing eight bushels of barley to make nine bushels of malt, it is calculated that every bushel of malt contains about 3-5th's worth of barley.

From this are brewed several sorts of ale, which run from 8 to 12 galls. to the bushel. The following statement from a practical Brewer in Preston, England, will show the quantity of barley in a gallon of ale.

Not more than 4 1-2d st'g of barley is used in a gallon sold for

3 3-4d	2s. 8d.
2s.	2s.
3d	1s. 4d.

From this it results, that the average price of ale is about six times the price of barley: and the man who buys ale as a nutritious food, acts as wisely as he who, instead of giving 6d. a pound for his beef, gives 3s! Suppose we take the common ale, sold at 1s4d. a gallon—if only 3d. worth of barley is used in making it, who gets all the rest?

The following statement will show—

Cost of barley,	3d.
Maltster,	1
Government for duty,	2 1-2
Brewer, (including cost of hops)	5
Retailer,	4
	1s. 4d.

If, then, the barley was really in the ale, you would get three pennyworth for sixteen pence; but there is not more than one-third of this. In order to produce more spirit the grain is subject to three operations, in which it either loses a great part of its nutritive qualities, or they are changed into others which are the reverse of nutritious. According to an eminent chemist, one-fourth of the nutriment is lost in making, another fourth in brewing, and one-sixth by fermentation: so that, instead of three-pence worth of nutriment in a gallon of beer, you in fact have only a pennyworth!!!!

SUMMARY.

The experiment of free labor by the emancipated slaves of the West Indies, proceeds, as was to be anticipated at first, with much difficulty. We have confidence, however, that ultimately it will succeed.

The latest accounts from Jamaica, of the 4th November, mention that the negroes (apprentices) manifest a determination to resist labor. Three attempts have been made to fire the town of Savannah-la-Mar. On one plantation, upwards of 400 apprentices are employed, who used to make 30 hogheads of sugar, weekly; now they make only one. The state of things in Demarara is much worse. Thirty-six out of thousands of apprentices in open insurrection in that island, have been arrested as ringleaders. One is to be executed, one transported for life, three for fourteen years, and the remainder to receive severe floggings. In St. Lucia, things are very little better.

FROM MOCHA.—The Baltimore American informs us that Captain Sloan, of the brig Ann, at this port on Saturday from Mocha, reported that all the ports on the Arabian side of the Red Sea were blockaded by the Egyptian Squadron, and that an expedition was about setting out from Juddah for the purpose of conquering the country of Yemen. In consequence of this state of affairs, all business was at a stand.

The Pittsburg Advocate of Dec. 3d, says that, within the last twenty four hours the Ohio river had risen three feet, and continued to rise. The Canal is in excellent condition, and boats are receiving and discharging freight in large quantities at the wharves and warehouses. The weather, though gloomy and wet, is warm and calm.

A letter from Augusta of the 29th ult., states that as fast as Cotton came in, it was taken from the wagons at 17 1-4 to 18 cents, without regard to quality!

The ship Edward, from Calcutta, arrived at Cape Island on the 24th instant, brought in passengers, Mrs. Reed, servant, and child. Mrs. R. is the widow of Rev. Mr. Reed, missionary to Calcutta, who died in August last, on his passage home. The infant of Mrs. R. is only two weeks old, and she is in delicate health. The E. has on board two elephants, a tiger, and several other wild animals.

A Nassau paper of the 12th ult. says that, the American ship Louisa, Gooday, from Liverpool for Havana, was wrecked on the Gingerbread Ground, on the 6th;—cargo saved, the brig Santiago, Ames, from St. Jago de Cuba, was wrecked the 22d, on the Hogtides—part of the cargo saved,—the schr. America, Douglas, from New York to Mobile, after being ashore on Abacoa, on the 3d., had arrived at Nassau,—a ship was said to be ashore on Orange key.

Extract of a letter from a gentleman at Oswego, to his friend in this city, dated Nov. 20 1834.

"Last night was a tremendous night, and an unfortunate one here. The schooner Janet, Captain James King, ran foul of the east pier and bilged—total wreck; Captain and two hands drowned. She was loaded from the Genesee with 2700 bushels wheat; value of schooner five thousand dollars; insurance on wheat \$1700; owned by Henry Fitzburgh,

who was also part owner of the vessel. Captain King was one of the oldest and most careful captains on the lake."—[Daily Advertiser.]

Melancholy Sloopwreck.—Portland, Dec. 3.—Capt. More, of the brig William Harris, arrived here this morning, furnishes us with the following intelligence:

Brig Hunter, E. Howes, of Boston, from New York, for New Orleans, was cast ashore near Juncos, north side of Cuba, six leagues to windward of Havana, on the morning of the 4th November, at 4 o'clock, and is totally lost. Captain, mate, four seamen, and twenty-three passengers lost with her. Two seamen and five passengers were saved. The persons saved were John Grose, James McGanlay, John Mahoney, John Cockler, and Henry James—all passengers. Jere Cotton and Richard French, seamen.—[Daily Adv.]

FATAL ACCIDENT.—A son of Mr. William Jones, 36 Clarkson street, six years old, was burnt to death on Saturday evening, in consequence of its loose clothing taking fire from a candle.

Accident.—Was drowned nearly opposite Fort Mifflin, on his way from the Sand Machine, at Thomson's Point, to Philadelphia, Mr. George Dixon, chief engineer.

Fire.—The interior of the Paper Hanging Manufactory and Bandbox Warehouse of Mr. Day, No. 3 Dover street, and the Engine House of No. 13, were destroyed by fire last evening.

When Bonaparte heard of some one or two instances of suicide occurring among his troops, in the year 1802, he issued forthwith a proclamation; which doubtless, had it not proved effectual, would have speedily been followed up by measures more effectual and prompt. We give the document below, not for any originality in the fine moral lesson which it inculcates—for the sentiments will be recognized as at least 2000 years old—but because it shows how this extraordinary man considered the propensity to suicide as not beyond the reach of control, and that it was his policy to meet it by a check direct—not by suppressing the notice of it through any fear of a dangerous example. The crime let it be remembered, is at least the attempt to commit a capital offence—a felony against God and the king, "who has an interest in the preservation of all his subjects;" and if punishment be not dealt out to the wretched culprit, for his own correction, the infliction of it is surely demanded for the warning and edification of others. "Order of the Day, St. Cloud, 22 Floreal, an X. The grenadier Groblin has committed suicide, from a disappointment in love. He was, in every other respect, a worthy man. This is the second event of the kind that has happened in this corps within a month. The First Consul directs that it shall be notified in the order of the day of the guard, that a soldier ought to know how to overcome the grief and melancholy of his passions; that there is as much true courage in bearing mental affliction manfully, as in remaining unmoved under the fire of a battery. To abandon one's self to grief, without resisting, and to kill one's self in order to escape from it, is like abandoning the field of battle before being conquered.—Signed, Napoleon, Bessieres."—[London Medical Gazette.]

PRESERVATION OF MEAT.—Meat may be preserved fresh many months by keeping it immersed in molasses. A joint of meat, or any provision, suspended in a flannel bag, will keep sweet much longer than by most of the modes commonly practised. The cooler and dryer the meat is when the flannel is put round it the better, and the flannel should be perfectly clean. Fresh meat put in a close vessel containing vinegar, will be preserved a considerable time. Tainted meat will be rendered good by pickling it in pearl-ash water some time. Before it is cooked, however, it should be dipped in vinegar a short time, and then salted in brine.

CURE FOR THE STING OF A WASP.—A few days ago, happening to be in the country, we witnessed the efficacy of the remedy for the sting of a wasp, mentioned in one of our late papers. A little boy was stung severely, and was in great torture, until an onion was applied to the part affected, when the cure was instantaneous. This important and simple remedy cannot be too generally known, and we pledge ourselves to the fact before stated.—[Liverpool Mercury.]

Amount of Gold coined at the mint of the United States from Aug. 1st to Nov. 29th, \$3,114,090.
Remaining uncoined, \$189,610.

STATISTICS.—The U. S. Telegraph publishes in a tabular form a curious statement "of the estimated aggregate maximum amount of taxes, &c., of Maine, R. Island, Connecticut, Ohio, Indiana and Missouri," and from the returns furnished from these six States, gives an estimated average for the remaining States of the Union.

It is not said whence these returns are taken, but we infer that they were made in answer to the call of Mr. Livingston, when Secretary of State, for information on all these points, in connexion with the discussion carried on in Paris in regard to the comparative expenses of a monarchical and republican system.

We propose to state some of the results shown by these returns—which exhibit the number of inhabitants in each State, and the whole annual expenditure for state, town and county taxes, for militia, road and bridge taxes, pay of the clergy, school money, and support of paupers.

Of the six States above named, the population is 2,215,718; and the whole amount of taxes of all sorts, levied for all purposes above enumerated, is \$3,438,515.

Estimating the population and taxes of the other States by these returns, we have as the aggregate for the whole twenty-four States, 12,866,020 inhabitants, and \$22,719,098 taxes. Excluding the expenditure of the General Government, this would give as the expenditure per head of the whole population, for all state, county and town purposes, and for the support of clergy and schools, \$1.76.

Adding, then, the expenditure of the General Government, which, taking the average of 1830 and 1831, and excluding the amount applied to the liquidation of the public debt, is stated at \$13,556,820; and dividing that sum by the population 12,866,020, we find that the expenditure per head for Federal purposes is \$1.05.

Whence it follows that the annual expense of government, education, religion, roads, and paupers, to each man, woman and child in the U. States, is—

For State purposes	\$1.76
For Federal purposes	1.05
Total	\$2.81

By the Montilla, there arrived yesterday from Carthagena \$20,769, and by the Helen Mar, from Tampico, \$134,659—total, \$155,428.

Quick work.—A merchant informed us yesterday afternoon, that he had received a letter from Leeds, by the Sheffield, in reply to a letter he wrote here on the 16th of October, and sent by the Columbus.—Thus the communication has been made in the short period of forty-eight days.—[Mercantile.]

ZOOLOGICAL INSTITUTE.—Among the sights of this sight-seeing city, we know no one more worthy of attention than that exhibited at the new and handsome establishment under the above name.

It is a new building in the Bowery, nearly opposite the Theatre, most conveniently arranged for the purpose in view, and handsomely fitted up. Safety, convenience and cleanliness are all abundantly provided for, and the collection of animals is as fine as one as we remember to have seen any where.—They are all in good health and condition, and without have good appetites, (the carnivorous ones) as any body may satisfy himself of who will attend at 4 or 8 P. M., the feeding hours, to see them receive their rations. Visits at these hours give to the spectator a pretty good notion of the ferocity of the beasts.

There is a family of natives—a lioness with her three whelps, not more than four months old—that is particularly worthy of notice, for their kitten-like playfulness.

As to the bold man who plays as familiarly in their dens with lions, tigers, and leopards as any lady with her lap dog, he is an object of unceasing admiration.

[From the Baltimore American.]

The Eclipse.

We send you a few results of the observations made in St. Mary's College on the occasion of the Eclipse, which took place on the 30th ult. The more scientific deductions which may be drawn from that phenomenon, we will reserve for some future communication. We were agreeably disappointed to have so favorable an opportunity of witnessing the grand spectacle which nature exhibited. The weather was remarkably clear, and though some light clouds constantly passed over the disc of the sun at the beginning of the eclipse, they did not prevent the accuracy of the observation.

We give here the beginning and end of the Eclipse as seen by two different observers. The time had been previously ascertained with exactness by several altitudes of the sun and the stars by means of a good Sextant.

Observers.	Magnifying powers of the telescope.*	The time of the 1st contact or the beginning of the Eclipse.	The time of the 2d contact or the end of the Eclipse.	Duration of the Eclipse.
1st	80	h. ms. sec. 12 51 58 8 meantime	h. ms. sec. 3 31 31 2 meantime	h. ms. sec. 2 39 32 4 meantime
2d	40	h. ms. sec. 12 52 8 8 meantime	h. ms. sec. 3 31 21 2 meantime	h. ms. sec. 2 39 12 4 meantime

* The least magnifying power was used for the sake of greater clearness.

From this it will be seen that the duration of the eclipse was not the same for the two observers.—With the magnifying power 80, it lasted 20 seconds longer than with magnifying power 40. The reason of this is, that the first observer sees the beginning before and the end after the other: this is a necessary effect of irradiation, a phenomenon by which the apparent diameter of objects is a little increased.—Hence when the slope in the sun's disc is small, the disc appears perfectly round, and so much the more so as the magnifying power is less. The slope may be so small that it cannot be perceived even with the most powerful telescope. Mr. Bouvard, director of the observatory at Paris, proved this fact by viewing a round disc of white paper having several cuts with a powerful telescope: the disc appeared sensibly round. However, we would observe that this does not effect the accuracy of the observation, when the object is to ascertain the longitude of a place in which the eclipse has been observed; for one result makes the longitude too great, the other too small. The mean gives an accurate longitude; this supposes that the beginning and the end of the eclipse have been observed. We remarked with satisfaction that the time calculated in the American Almanac and the time observed are so little different that both the tables of the sun and moon, and the position of our city, are pretty well ascertained. This is the most striking instance of the sublimity of human genius, that notwithstanding the numerous inequalities of the moon's motion, the hour, minute, second, and fraction of a second can be assigned with the greatest precision when, in the immensity of space, two small discs come in contact.

As to the other phenomena connected with the eclipse, viz. the diminution of the heat and of the light of the sun, and the effect produced on the atmosphere, they stand as follows:

Meantime in	Thermometer	Thermometer
Baltimore: towards the south.	toward the north.	
Hour—P. M.	exposed to the sun.	in the shade.
1	64 F.	51.2 F.
1 30	60	52
1 45	58	51.7
2 15	54	50.7
2 45	54	49.5
3 30	58	51.0

A powerful burning glass at the beginning and towards the close of the eclipse could set cloth on fire in an imperceptible time; towards the greatest obscuration it took three, four and five seconds to set it on fire.

The darkness which attended the eclipse was considerable; the sky appeared as it usually does at the setting of the sun, and all objects looked singularly gloomy. The planet Venus became visible to the naked eye, and remained very bright for more than half an hour. We examined it with a large telescope; it appeared unusually distinct and beautiful, like a large moon with a very small crescent.

The meteorological state of the atmosphere seemed to have been effected by the eclipse. To this we attributed the light clouds, which passed over before the beginning of the eclipse and lasted during the first half of it. In fact the eclipse was travelling

from west to east. The diminution of the heat produced the light clouds which were wafted over by the western wind. Towards the end of the eclipse, the equilibrium being restored, the clouds disappeared, the wind ceased and the atmosphere became as calm as it was in the morning. During the eclipse, the barometer seemed to have a tendency to rise, as will be seen by the following table:

	Ins.
Beginning,	30.097
Greatest obscuration,	30.103
End,	30.125

St. Mary's College, Dec. 1 1834.

Brevet Brig. Gen. Arbuckle has been appointed to the command (vacated by the death of Col. Leavenworth), of all the troops on the South Western frontier.

Real Estate.—A large sale of real estate, belonging to the estate of the late Abraham Duryee, was made yesterday. The house and lot, No. 55 Wall street, brought the sum of \$65,500. The house is not of much value, and will probably be pulled down. The lot is 36 feet 3 inches in front, and 41 feet 8 inches on the rear, depth 94 feet on one side, and 71 feet 9 inches on the other.

A City Indicted.—The Grand Jurors have presented the city of Boston to the Supreme Court for a nuisance in not repairing a street in South Boston. This is a novel case.

The steamboat fare between this city and Providence is raised to \$8 during the remainder of the season. One boat, the Providence, is withdrawn from the line for repairs, and will not resume her place till spring. Of course there are one or two days in the week when no boat runs. The boats running on the line are the Boston, President, and Franklin.—[Journ. of Com.]

English Guns.—There is a peculiar malleability about our English iron that is not to be met with in any other quarter of the globe, and consequently the pinnacle of perfection to which our gun-makers have arrived is unattainable by the foreign manufactures. A curious, and not uninteresting, exemplification came under my own observation about three years ago. A gentleman connected with a highly respectable firm in the gun trade, at Birmingham, was summoned to attend a board, or more properly speaking, a committee, composed of some of the Magi in Leadenhall-street, respecting a contract for guns, to be shipped to their possessions in the East. The president of this said committee was Captain M., who was the spokesman of the conclave, and after some bartering and higgling as to the price, &c., the contract was agreed upon. As is customary on these occasions, several patterns of guns were produced before this board of tea dealers, and from divers samples handed to the would-be-contractor, one single-barreled gun was selected as the "ne plus ultra" of perfection. Mr. W. D., the individual in question, was rather tauntingly asked by Captain M.—if he could make such a barrel as the one which adorned the gun produced; a modest, yet firm, affirmation, was the reply. Now it so happened that this was a noted tool, the barrel whereof was of Damascus make. A bonus of ten pounds was promised if Mr. W. D., the contractor, would produce a barrel of English manufacture, and of the same weight and calibre, and which would stand the test of trial, or proof, against it. The offer was boldly and eagerly accepted by the contracting party, and a day of trial appointed in the East India Company's ground. At the same hour, Mr. W. D. was there with a gun turned out by his employers at Birmingham, corresponding in weight and calibre to a fraction with the "master piece." The usual proof charge of powder was apportioned to each of the rival powers, under the superintendence of an umpire, at each trial of the strength of the barrel—one, two, three, four, five, six, seven, and eight bullets were fired by each of the guns without any damage but on nine bullets being discharged, the Damascus barrel flew into a thousand pieces, like so much glass; ten and eleven bullets were fired from the Birmingham gun, at the discharge of the twelfth bullet, about three inches of the muzzle blew off, and that without materially disfiguring the barrel, for the piece was severed as neatly as if it had been regularly sawed off, and it was the opinion of those present that the "Brammagem" would have stood even one or two more bullets, had the last (the twelfth) been properly rammed down.—Nevertheless and notwithstanding, as Joseph Hume says, the Superiority of British manufacture

was manifest, and without adding this authenticated fact in support of my argument, I should be borne out in asserting that our iron is immeasurably better than any other in the world. The best material used for gun-barrels is stub iron or old horse-shoe nails, these form the best twist, are tougher, and more yielding withal. —[The Sportsman.]

THE ANGELS' WHISPER.

[From Mr. Lover's Songs of the Superstitions of Ireland.]
A baby was sleeping,
Its mother was weeping,
For her husband was far on the wild raging sea;
And the tempest was swelling
Round the fisherman's dwelling.
And she cried, "Dermot, darling! oh, come back to me!"
Her beads while she numbered
The baby still slumber'd,
And smiled in her face as she berded her knee;
"Oh, bless'd be that warning,
My child, thy sleep adorning—
For I know that the angels are whispering with thee."
And while they are keeping
Bright watch o'er thy sleeping,
Oh, pray to them softly, my baby, with me—
And say thou would'st rather
They'd watch o'er thy father,
For I know that the angels are whispering with thee."
The dawn of the morning
Saw Dermot returning,
And the wife wept with joy her babe's father to see;
And closely caressing
Her child with a blessing,
Said, "I knew that the angels were whispering with thee!"
*One of the popular superstitions of the Irish is, that, when a smile plays over the face of a sleeping infant, angels are whispering with it.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street,
J31 St corner of Maidenlane.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of *Duffee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New York, }
January 29, 1833.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.
Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.
Ship and Boat Spikes made full size under the head, so as not to admit water.
Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept-13-1 y

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh. —August 15, 1833. A29 & RM&F

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Pinneus Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.
The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.
Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal, at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER. 23

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.
The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 23 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine-wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, pag 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch, Flat Bars in lengths of 14 to 16 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
360 do. 1 1/2 do. do.
40 do. 1 1/2 do. do.
800 do. 2 do. do.
800 do. 2 1/2 do. do.
soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.
Axles of 24, 28, 30, 32, 34, 36, and 38 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1833.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germanstown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY A. CAMPBELL, Eng. Philad.

ml 1 y Germant. and Norrist. Railroad,

STEPHENSON.

Builder of a superior style of Passenger Cars for Railroad No. 344 Elizabeth street, near Riscocker street.

New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J35 17

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.
Also, Flange Tires turned complete.

ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTIE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartie.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartie.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

D. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of pursuing the same. m24

RAILROAD AND CANAL MAP.
 THIS long promised Map is now ready for those who wish it. Its size is 34 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Morocco Paper covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.*

Published at 35 Wall street, N. Y., by
 D. K. MINOR & J. E. CHALLIS.

UTICA AND SCHENECTADY RAILROAD COMPANY.

Call for Second Instalment on Stock.
 THE Stockholders in the Utica and Schenectady Railroad Company are requested to pay on or before the twentieth day of December next, the sum of Three Dollars on each Share of Stock in the Company held by them respectively under the penalty (provided by law in case of non-payment) of the forfeiture of all previous payments made thereon.

Stockholders residing in the city of New York, or within said State and south of the counties of Columbia, Greene and Delaware, are requested to make said payments to the Cashier of the Phenix Bank, at the said Bank in the city of New York; and all other Stockholders in said Company are requested to make said payments to the Treasurer of said Company at the Albany City Bank or at the Commercial Bank, in the city of Albany; but any Stockholder residing west of the counties of Albany, Schenectady or Saratoga may make such payments by depositing the same to the credit of the said Treasurer in the Ontario Branch Bank, in the city of Utica, or in the Herkimer County Bank, at Little Falls, or in the Montgomery County Bank, at Johnstown, provided a certificate of such deposits (with the name of the Stockholder by or for whom such deposits are made) be forwarded to said Treasurer, so as to be received by him on or before the 25th day of December next.

Albany, November 13, 1834. By order,
 GIDEON HAWLEY,
 Treasurer of the Utica and Schenectady
 Railroad Company.

nov17d&Ctdcc90

LONG ISLAND RAILROAD COMPANY.
 NOTICE IS HEREBY GIVEN, That the undersigned Commissioners, appointed by an act of the Legislature of the State of New-York, passed April 24, 1834, will receive subscriptions to the capital stock of the Long Island Railroad Company, being One Million Five Hundred Thousand Dollars, divided into shares of fifty dollars each, agreeably to the charter of said Company, on the 15th, 16th, and 17th days of December next, from nine in the morning to three in the afternoon of each day, at the following places, viz.—At the Dry Dock Bank, No. 333 Pearl-street, in the city of New-York—at the Apprentices' Library in the city of Brooklyn, county of Kings—at the Court House, in and for the county of Queens—at the Inn of William Griffing in the town of River Head, county of Suffolk—at the House of Thomas Hallock, in Smithtown, in said county of Suffolk.

Subscribers are required by the Charter of the Company to pay to the Commissioners at the time of subscribing five dollars on each share.

Copies of the Charter can be had upon application at the Dry Dock Bank, 333 Pearl-street, New-York.

Samuel Hicks	Benjamin Strong
John Lorimer Graham	Joseph Moser
Edwin Hicks	Edmund Frost
Singleton Mitchell	Nicholas Wyckoff
William F. Hydenburgh	James H. Weeks
Joseph H. Goldsmith	Valentine Hicks.

13nov 18cc. 18

AGENTS FOR NEW PUBLICATIONS.
 HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications:
 The New York American Daily, at \$10.00—Tri-Weekly, at \$5.00—Semi-Weekly, at \$4.00 in advance.
 The American Railroad Journal, Weekly, at \$3.00 per annum.

The Mechanics' Magazine, two volumes a year, at \$3.00 per annum.
 The Quarterly Journal of Agriculture and Mechanics, at \$5.00 per annum, or \$1.25 per number.

The Family Magazine, 416 pages a year, at \$1.50 in advance.

The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25.

The Ladies' Companion, of 54 pages a month, at \$3.00 per annum, in advance.

The Rochester Gem, at \$1.50 in advance.

All Communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834.
 adve Cit.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN.

347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

Mr. Thorburn is also Agent for the following publications to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANICS' MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly: either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

MECHANICS' MAGAZINE.

THE NOVEMBER NUMBER is now ready. It contains Judge Baldwin's Address before the American Institute, verbatim, corrected by himself; a supplemental account of articles exhibited at the Fair, and a great variety of interesting scientific intelligence, both American and European.

The Mechanics' Magazine and Register of Inventions and Improvements is published by the Proprietors, D. K. MINOR & J. E. CHALLIS, at No. 35 Wall-street, New York: in weekly sheets of 16 pages, at 64 cents—in monthly parts of 64 pages, at 31 1/2 cents—in volumes of 384 pages, in cloth boards, at \$1.75—or at \$3 per annum, in advance.—JOHN KNIGHT, (formerly proprietor of the London Mechanics' Magazine,) Editor.

The following encomiums on the MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS, are selected, from many others, from newspapers published in every section of the Union:

No respectable mechanic who feels the least interest in the manifold improvements of the age, should be without this, or some similar publication.—*Susquehanna Register.*

It ought to find its way into the house of every artisan, and no mechanic who desires to keep pace with the various improvements of the day, will be without it.—*Geneva Whig.*

There is no periodical in this country which more deserves the patronage of the mechanic than this, and which will better repay him for the expense incurred and the time spent in its perusal.—*Elmira Gazette.*

It contains information on almost every subject connected with mechanics, and a register of inventions and improvements.—*Montreal Gazette.*

This is a work of merit, and deserves the patronage of all practical mechanics: most, if not all of them, can afford it, the price being only three dollars a year.—*Virginia Republican.*

The selections appear to be judiciously made, and calculated to be very useful to that interesting portion of our fellow citizens for whose special benefit it is intended. While to the inquisitive reader, it will also be a source of much gratification to witness the progress of human invention and knowledge. This Magazine is worthy of every encouragement, and we wish the enterprising editor success. His work will prove a powerful auxiliary to the "American System," by improving American artists and mechanics.

Protective laws to guard them from the influx of depressed labor, and a republication of the valuable improvements suited to their various professions, will greatly tend to give a spur to their industry, and keep them where they now are, and ought always to be, namely, among the most useful and respectable of their fellow-citizens.—*N. York Mercantile Advertiser.*

To say merely that it is valuable, would be no praise. No mechanic—no family, should be without it.—*Westfield Eagle.*

Such a work has long been needed by our mechanics, whose inventive genius, almost unaided by science, has outstripped, if possible, inventive Germany, or the scarcely less ingenious England: a work in which the growing genius of our country may find food for its nourishment.—*Hartford Mercury.*

The third number of this periodical, published in New-York, by D. K. Minor, has been received. This may be considered a specimen number of a very useful and interesting work, and may be examined at this office.—*Exeter News Letter.*

We look upon this periodical as the best of its kind our country affords. To practical mechanics it particularly recommends itself, as embodying a great mass of information directly bearing on their employments and interests. The scientific man will find in its pages essays and remarks well adapted to his pursuits, and the general reader cannot fail to peruse its contents with increasing gratification, as affording him a continued supply of interesting and useful instruction. The best support of our institutions and government is knowledge diffused among the people, and every effort which tends to promote this end should have encouragement—the publication before us being calculated in an eminent degree to serve so high an object, possesses a just claim to our patronage.—*Salem Gazette.*

We bear testimony to the editor's ability to render the publication interesting and instructive. The Mechanics' Magazine is emphatically what its title imports; and, although intended more particularly for the American practical mechanic, will be found a valuable acquisition to the library of the man of science, as well as the general reader.—*Delaware Journal.*

We are assured by a scientific gentleman, that this work is conducted in an able manner; that its pages are replete with information; and that it should be generally read by those for whose benefit it is more particularly intended—the mechanics.—*Middlesex Gazette.*

Almost every practical mechanic may find in it much that will be serviceable to him in his business, or help to enrich his mind and enlarge his views.—*Lancaster Examiner.*

This Magazine evidently increases in value and interest as it advances in age. We trust it meets with corresponding support from the ingenious, scientific, and industrious artisans of our country.—*Nantucket Inquirer.*

We do not hesitate to pronounce the Magazine such a work as no mechanic or artisan should be without. It is under the editorial charge of John Knight, late publisher of the London Mechanics' Magazine. The July number, now before us, contains a variety of matter useful to the man of science as well as to the mechanic, (to which latter

class the work is particularly recommended,) both from the interesting nature of the subjects to which it is devoted, and the clear and able manner in which they are treated.—*Petersburg Intelligencer.*

To the mechanic, especially, is this work of great interest and usefulness; and no one of this numerous and respectable class of community should fail to encourage publications calculated to improve them in practical and theoretical knowledge upon scientific principles. The spirit of inquiry, investigation, and experiment in the mechanic arts, which characterize the age, and promise so much benefit to our widely extended and prosperous country, cannot fail to derive much aid from so well conducted a publication as the Magazine.—*Watertown Herald.*

Our favorable opinion of this publication has been already so fully and so frequently expressed as to leave but little to add. It is a work which every scientific man, and every mechanic, ought to possess.—*Union, Salem, N. J.*

We are surprised that every mechanic in the land does not avail himself of this invaluable periodical. The subscription price is only three dollars per annum, for which sum two volumes, of about 400 pages each, can be obtained, containing more valuable information than can be otherwise obtained for triple the sum.—*Western Argus.*

We have received the November number of this valuable publication, and again call the attention of the operative classes to it. If our young mechanics, in particular, would lay out their spare money for works of this character, instead of the fulsome trash, denominated light literature, with which the press is so prolific, they would become possessed of a fund of useful and entertaining knowledge.—*Schenectady Cabinet.*

We have shown several of the numbers to some of our most eminent mechanics, and have their unqualified sanction in saying that they are worthy the perusal and study of every mechanic who wishes to rise in his profession. They are got up in a very superior style.—*Montreal Herald.*

We are persuaded that the merits of the work are not sufficiently known; and yet there is no periodical in the country which has been more unequivocally commended by competent judges than this.—*Newark Advertiser.*

There is no publication in our country calculated better to serve the interests of practical men, than the work before us.—*Nantucket Inquirer.*

To gratify the thirst for knowledge evinced by the mechanics of the United States the publication was undertaken, and surely any effort calculated to advance a profession which has given birth to a Fulton, a Watt, a Whitney, a Franklin, an Arkwright, and other bright names, should meet with encouragement.—*Georgian.*

It is ably conducted, contains a large mass of the most useful and interesting matter, is neatly executed, and upon the whole is better calculated to diffuse useful and valuable information in relation to the various subjects of which it treats, than any publication with which we are acquainted, and this, too, so cheaply, that none can complain of the price.—*Washington Republican.*

A glance over its pages will convince any person of the great utility of such a work. Its contents are varied—almost every subject in the range of mechanism is touched upon—and its reduced price, three dollars per annum, places a system of modern architecture within the reach of nearly every person.—*Hillsborough Gazette.*

The work needs only to become known to insure it a very extensive circulation. It certainly cannot fail to be highly interesting and useful to the numerous class of persons for whom it is particularly designed.—*Paterson Intelligencer.*

It is stored with representations and descriptions of improvements in machinery, and of newly invented articles, together with information valuable to every class of citizens.—*U. S. Gazette, Philadelphia.*

This periodical really deserves credit for the ability and attention with which it keeps pace with the mechanical improvements of the age. It is, we see, edited by Mr. Knight, late of the London Mechanics' Magazine, a work which did more to elevate the state of knowledge among the working classes, than any other in England.—*Commercial Advertiser.*

It is a work well worthy the attention of every mechanic, and one which affords to genius a chance of exhibiting talents.—*N. Orleans Merc. Adv.*

This is a publication of practical value and deserved popularity.—*Albany Argus.*

This is altogether one of the most valuable periodicals that ever appeared in the country; and there are few, if any, that would repay their perusal with equal advantage.—*Ashtabula Gazette.*

The theoretical and practical mechanic will find a mine of useful information in these pages.—*Mercantile & Advocate, N. Y.*

We do not know when we have perused a more useful and interesting work.—*Pennsylvania Intelligencer.*

Very few mechanics are so far advanced as not to be delighted and surprised with each successive number of THEIR magazine.—*Pulaski Banner.*

Its contents continue to be selected with discrimination and judgment, and comprise a large body of exceedingly useful, and, in many cases, exceedingly agreeable information. For the class of persons for whose benefit it is principally designed it is uncommonly well adapted, and it is put within their reach, too, by the lowness of the price at which it is published.—*N. Y. Evening Post.*